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# Birth Trauma: A mixed-methods investigation

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**UNIVERSITY OF  
PLYMOUTH**

**BIRTH TRAUMA:  
A MIXED-METHODS INVESTIGATION**

*By*

**GRACE V. BAPTIE**

A thesis submitted to the University of Plymouth  
in partial fulfilment for the degree of

**DOCTOR OF PHILOSOPHY**

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## Author's Declaration

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

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### Related publications:

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Make Birth Better. (2020, September 20<sup>th</sup>). 'The aftercare was shocking': Nine in 10 women say maternity choices changed due to Covid-19 crisis. (press release). Available at: <https://www.independent.co.uk/news/uk/home-news/pregnancy-coronavirus-women-choices-changed-b469021.html> (data analyst in collaborative project, uncredited).

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## **Abstract**

Approximately one-third of women appraise their childbirth experience as traumatic and many women experience symptoms of posttraumatic stress disorder (PTSD) as a result. Whilst earlier work concentrated on prevalence and risk factors of clinically significant trauma, recent research focuses on the large group of women who experience childbirth as traumatic but do not necessarily meet the threshold for PTSD. This thesis comprises a mixed-methods design to investigate predisposing factors associated with presentation of postnatal posttraumatic stress (PTS) symptoms and the appraisal of childbirth as a traumatic experience. Specifically, this thesis aims to address the following questions: What perinatal risk factors are associated with a traumatic appraisal of childbirth and postnatal PTS symptoms? What antenatal vulnerability factors are associated with PTS symptoms? and are there aetiological differences between postnatal trauma, depression and anxiety?

Firstly, findings from two large-scale survey studies reveal the subjective birth experience to be a stronger predictor of postnatal PTS compared to the obstetric experience. Significant subjective factors include low internal control, feeling dissociated and poor perceived staff support, which also presents as a mediator between obstetric intervention and PTS symptoms. Secondly, qualitative analysis provides a new thematic framework of contributory factors for women's appraisals of childbirth as traumatic or non-traumatic in relation to women's experience of feeling empowered or powerless during birth. Thirdly, a quantitative, longitudinal study presents pre-existing PTS and alexithymia symptoms during pregnancy as novel predisposing factors for postnatal PTS symptoms. Lastly, in comparison to postnatal depression and anxiety, birth trauma appears to have a distinct aetiological pathway. Collectively, these findings provide consistent evidence that a negative subjective birth experience contributes to a traumatic appraisal of childbirth and presentation of PTS

symptoms, over and above obstetric experience. This thesis supports initiatives seeking to empower women during birth and offer antenatal and postnatal screening for birth trauma.



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## Overview of Thesis

The overarching research question of this thesis is to identify what factors may contribute to a traumatic appraisal of childbirth and predispose women to present with postnatal posttraumatic stress symptoms. To address this research question, I incorporate a mixed-methods approach using both quantitative and qualitative methods. In Chapter One, I introduce the concept of birth trauma, outline existing aetiological models and summarise current theoretical understanding. I discuss existing literature regarding risk factors associated with birth trauma and the implications of posttraumatic stress after childbirth in comparison to postnatal depression and anxiety. In Chapter Two, I detail the methodology used to study birth trauma in this investigation and provide justification for the use of a mixed-methods approach. The following four chapters of my thesis detail four empirical research studies: In Chapter Three, I present a large-scale retrospective survey study with women in the postpartum period. The study design incorporates both quantitative and qualitative methods to address factors of the birth that contribute to a traumatic appraisal of childbirth and postnatal posttraumatic stress symptom presentation. Chapter Four consists of an in-depth qualitative exploration of the birth experiences from women who experienced either a traumatic or a non-traumatic birth. I present the findings from this qualitative study in a new thematic framework of contributory factors for the appraisal of childbirth. In Chapter Five, I present a large-scale longitudinal survey study, which follows women from their third trimester of pregnancy through to three-months postpartum. From this study, I developed a predictive model of postnatal posttraumatic stress symptoms including antenatal vulnerability and birth-related factors and compared this with postnatal depression and anxiety. Chapter Six presents a focus-group study with perinatal counsellors and discusses the clinical implications of birth trauma. Finally, Chapter Seven is a summary of my research and a discussion of the implications and applications from this collective body of work.

# CHAPTER ONE

## INTRODUCTION

*“I became what I am today at the age of twelve, on a frigid overcast day in the winter of 1975... That was a long time ago, but it’s wrong what they say about the past... Looking back now, I realise I have been peeking into that deserted alley for the last twenty-six years.”*

*Khaled Hosseini – ‘The Kite Runner’*

## **1.1. Foreword**

Childbirth is a life-changing event that can lead to women experiencing enhanced mastery, self-efficacy and competence. The transition into motherhood is perceived by society as a joyous time in one's life. Therefore, it may be difficult to acknowledge that childbirth can be a traumatic experience for some women. The recognition of childbirth as a potentially traumatising event is a relatively recent concept. Yet, over the last two decades, research has identified that childbirth can be a deeply distressing and traumatic experience for women, that can in some cases lead to the development of post-traumatic stress disorder (PTSD). In this chapter, I will provide an overview of birth trauma literature and discuss the prevalence and risk factors associated with postnatal posttraumatic stress symptoms. I will also reflect on postnatal trauma in comparison to postnatal depression and postnatal anxiety. At the end of this chapter, I will outline the four research questions that dictated the course of investigation presented in the following chapters of this thesis.

## **1.2. Posttraumatic stress disorder**

Posttraumatic stress disorder (PTSD) was first recognised as a pathological reaction to war experiences and was used to describe veterans' presentation of psychological distress following the Vietnam war (Crocq & Crocq, 2000). As such, in 1980, PTSD was first added to the 3<sup>rd</sup> edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (American Psychiatric Association [APA], 1980). The criteria for PTSD diagnosis were unique amongst other psychiatric diagnoses due to the importance afforded to the aetiological basis of symptoms that require an objectively traumatic stressor. In the DSM-III, the



traumatic event associated with a diagnosis of PTSD was conceptualised as a ‘catastrophic stressor outside the range of usual human experience’ (APA, 1980). The distinction of a traumatic event from other forms of life-stressors fit with the assumption that pathological responses to stress are likely to occur after stress-coping mechanisms become overwhelmed when confronted with an unusual traumatic event (Friedman & Marsella, 1996). However, this detracted from forming an appropriate concept of a wider variety of pathological responses to stressors that form part of usual human experience, such as car accidents, accidents at work or medical incidents. This is of particular relevance as the definition of PTSD in the DSM-III conditionally required the temporal association of exposure to a trauma that met these stressor criteria preceding symptoms, i.e. ‘the development of characteristic symptoms *following* trauma’ (APA, 1980). The following edition of the DSM, the DSM-IV (APA, 2000), also used causal language when describing symptoms, i.e. ‘*resulting from* the exposure to trauma’. However, the stressor criterion in the DSM-IV removed the prerequisite for a trauma event to be outside the range of usual human experience. Instead, the DSM-IV describes the qualifying event objectively as traumatic when involving ‘actual or threatened death, serious injury or a threat to physical integrity’ (APA, 2000). This was combined with a required subjective response of ‘intense fear, helplessness or horror’. The most recent version of the DSM, the DSM-5 (APA, 2013), removed the subjective component of the trauma criterion and retained the objective definition of a traumatic event to involve ‘actual or threatened death, serious injury or sexual violence’. The evolution of the DSM criteria for PTSD is presented in *Table 1.1*. alongside the corresponding symptoms of PTSD.

Table 1. 1. PTSD criteria for trauma exposure, symptom clusters and criteria in DSM-III, DSM-IV and DSM-5

	DSM-III (APA, 1980)	DSM-IV (APA, 2000)	DSM-5 (APA, 2013)
<b>Trauma Definition</b>	A. Event that is outside the range of usual human experience and that would be markedly distressing to almost anyone	A1. Traumatic event involving actual or threatened death, serious injury or threat to physical integrity A2. Intense fear, helplessness or horror	A. Traumatic event involving actual or threatened death, serious injury or sexual violence
<b>Exposure Criteria</b>	None	<ul style="list-style-type: none"> <li>▪ <u>Direct exposure</u>: Direct personal experience</li> <li>▪ <u>Witnessed</u>: Trauma to another person</li> <li>▪ <u>Indirect exposure through others</u>: Learning of exposure to family member or other close friend</li> </ul>	<ul style="list-style-type: none"> <li>▪ <u>Direct exposure</u>: To self</li> <li>▪ <u>Witnessed</u>: Eyewitness of trauma to others</li> <li>▪ <u>Indirect exposure through others</u>: Learning of exposure to close family member or close friend</li> <li>▪ <u>Repeated or extreme exposure to aversive details of trauma</u>: Exposure through electronic media, television, movies or pictures. (Applies only if work-related).</li> </ul>
<b>Symptoms</b>	<b>12 symptoms in 3 clusters</b> <b>B. <u>Re-experience</u></b> : ≥1 of 3 symptoms (intrusive recollections; dreams; feeling the event is recurring) <b>C. <u>Numbing</u></b> : ≥1 of 3 symptoms (loss of interest; detachment from others; constricted affect) <b>D. <u>Arousal and avoidance</u></b> : ≥2 of 6 symptoms (exaggerated startle; sleep disturbance; survival guilt; memory impairment or trouble concentrating; avoidance of reminders; symptom intensification by reminders)	<b>17 symptoms in 3 clusters</b> <b>B. <u>Re-experience</u></b> : ≥1 of 5 symptoms (intrusive recollections; dreams; feeling the event is recurring; distress from reminders; physiological reactivity from reminders) <b>C. <u>Avoidance/Numbing</u></b> : ≥3 of 7 symptoms (avoidance of thoughts; avoidance of activities; memory impairment; loss of interest; detachment from others; constricted affect; sense of foreshortened future) <b>D. <u>Hyperarousal</u></b> : ≥2 of 5 symptoms (exaggerated startle; sleep disturbance; trouble concentrating; hypervigilance; irritability)	<b>20 symptoms in 4 clusters</b> <b>B. <u>Intrusion</u></b> : ≥1 of 5 symptoms (unwanted memories; nightmares; flashbacks; distress from reminders; physiological reactivity from reminders) <b>C. <u>Avoidance</u></b> : ≥1 of 2 symptoms (internal reminders – thoughts or feelings; external reminders) <b>D. <u>Altered cognitions/mood</u></b> : ≥2 of 7 symptoms (memory impairment; negative thoughts; blame self/others; negative affect; decreased interest; feeling isolated; difficulty experiencing positive affect) <b>E. <u>Altered arousal/reactivity</u></b> : ≥2 of 6 symptoms (Irritability; exaggerated startle; sleep disturbance; difficulty concentrating; hypervigilance; reckless or self-destructive behavior)
<b>Symptom Duration</b>	Not specified	E. ≥1 month	F. ≥1 month
<b>Clinical Significance</b>	Not specified	F. Clinically significant distress or impairment in functioning	G. Clinically significant distress or impairment in functioning
<b>Exclusion Criteria</b>	None	None	H. Not attributable to the physiological effects of a substance (e.g. medication, alcohol) or another medical condition.

As presented in *Table 1.1.*, the symptom clusters for PTSD have changed over the course of the editions of the DSM. However, re-experiencing trauma through intrusions is consistently documented as an individual symptom cluster ‘Criterion B’ across all editions. Because of this, intrusive re-experiencing of trauma is considered the hallmark symptom of PTSD (Foa et al., 1989). Intrusive memories are often triggered involuntarily and can cause vivid and emotional re-experiencing of the trauma event (Ehlers et al., 2004). People with PTSD often report feeling as though the traumatic experience is happening again in the present, causing people to disconnect from the here-and-now and react in ways they did when the trauma originally happened (Van der Kolk, 1994). This is due to a reliving of the same thoughts, emotions and physiological sensations that occurred during the time of the original traumatic experience.

In an attempt to reduce exposure to reminders of the traumatic event, people with PTSD typically present with persistent avoidance of stimuli associated with the trauma. The DSM-5 was the first edition to recognise avoidance symptoms as a separate symptom cluster and acknowledges the distinction between internal and external triggers (APA, 2013). Avoidance symptoms can present as an avoidance of talking or thinking about what happened and/or avoiding external reminders of the people or context associated with the trauma event. PTSD symptoms also commonly include persistent symptoms of increased physiological arousal, such as disruptions to concentration, irritability, hypervigilance to threats and sleep disturbances. The DSM-5 was the first edition to recognise the adverse psychological consequences of trauma on general cognition and mood and included symptom criteria related to memory impairment, negative thoughts and negative affect (APA, 2013). The addition of this fourth symptom cluster followed factor analytic research and clinical observations to incorporate the wide range of trauma symptoms people can present with

(Miller et al., 2013; Weathers, 2017; Zelazny & Simms, 2015). For a diagnosis of PTSD, patients must report experiencing all four types of symptoms for at least one month. These symptoms must also cause clinically significant distress or impairment in occupational, social or other important areas of functioning (APA, 2013).

### **1.3. Birth trauma**

Many of us will be exposed to a traumatic event in our lifetime, but lifetime prevalence rates of posttraumatic stress disorder (PTSD) are reported to affect 8% of the population (Kilpatrick et al., 2013). In the same vein, almost 90% of women will give birth, but not all of these women will appraise their birth as traumatic or experience symptoms of post-traumatic stress as a result of their birth. A recent review suggested that between 4.6-6.3% of mothers develop postnatal PTSD after childbirth (Dekel et al., 2017). When applying these proportions to the number of women who give birth each year, this translates to up to approximately 44,000 women affected by postnatal PTSD across the UK each year (ONS, 2020).

Birth trauma is a phrase used to describe the presentation of posttraumatic stress (PTS) symptoms as a result of a traumatic childbirth experience (Littlewood & McHugh, 1997). The evolution of the diagnostic stressor-criteria of PTSD from the original definition of an event ‘outside the range of usual human experience’, means that pathological stress responses to common life-events, such as childbirth, can result in a diagnosis of PTSD. According to DSM-5 classification of a trauma event, women would meet criterion A of the PTSD diagnosis if during the birth the mother perceived threat of death or serious injury to either herself or her baby (APA, 2013). A number of complications and obstetric events can occur

during childbirth that are potentially traumatic, such as stillbirth, postpartum haemorrhage, severe maternal or neonatal complications and emergency medical interventions. However, women can experience an objectively uncomplicated birth but feel traumatised by aspects of the experience, such as a loss of control, loss of dignity or hostility from the people around them (Allen, 1998). A seminal qualitative research article by Beck (2004) emphasised the significance of women's subjective experience of traumatic childbirth that may be otherwise perceived to healthcare professionals as routine practice. Additionally, many women who experience obstetric complications during childbirth are not traumatised from their birth and do not appraise their birth to have been a traumatic experience.

It is important to make the distinction here between postnatal PTSD, postnatal PTS symptoms and appraising childbirth as a traumatic experience. It is estimated that approximately one third of women appraise their birth as traumatic (Ayers, 2004), a much larger proportion of women compared to the aforementioned estimated prevalence rates for postnatal PTSD.

Early birth trauma research predominantly measured prevalence and risk factors of diagnosed PTSD after birth, whereas more recent birth trauma research measures risk factors associated with postnatal PTS symptoms as opposed to full DSM criteria for PTSD, (Ayers & Ford, 2016). Symptoms are typically measured by attributing trauma symptoms to the childbirth experience, for example, intrusive flashbacks of the birth. Scales used to measure PTSD after other events are adapted to specify childbirth as the stressor criterion (Ayers et al., 2018; Olde, Kleber, et al., 2006; Wijma et al., 1997). Throughout this thesis, postnatal trauma is referred to as 'PTS symptoms' with regards to trauma symptom presentation after childbirth that may not meet the clinical cut-off for full diagnostic criteria of PTSD. The term 'postnatal PTSD' refers to presentation of clinically significant trauma symptoms that are attributed to childbirth and would meet the full DSM criteria for PTSD diagnosis.

## **1.4. Brief history of childbirth and trauma**

The constraints of stressor criteria for PTSD in the early editions of the DSM prevented childbirth from being attributed as a PTSD-inducing event and likely goes some way in explaining the large discrepancy in the quantity of research dedicated to birth trauma from a psychological standpoint as opposed to physiological trauma (Simpson & Catling, 2016). This bias reflects medical establishments typically attending more to the physical outcome of birth for mother and baby, with the affective experience of birth regarded as a secondary concern. Yet, despite advancements in the medicalisation of childbirth, there is no evidence to suggest that the prevalence of women who experienced childbirth as traumatic was any lower half a century ago (Michaels, 2018).

Medical advancements in childbirth have a controversial history. Some religious leaders opposed pharmacological pain relief of labour with beliefs rooted in the biblical reference that Eve ‘bring forth children in suffering’ (Genesis 3:16) and relief of pain during childbirth was only approved by Pope Pius XII in 1956. Yet most clergymen and lay people did not hold this belief, and in 1853, Queen Victoria ended the moral opposition by reporting her use of Chloroform in labour during the birth of her eighth child, Prince Leopold (Camann, 2014). Consequently, the early 1900’s saw a movement to advance obstetric analgesia during childbirth so that privileged women were able to give birth under heavy sedation known as ‘twilight sleep’ (Skowronski, 2015). However, the greater accessibility and advancements of anaesthetics came bundled with practices that took control out of women’s hands and into obstetric-led hospitalisation. In the mid-twentieth century, medicalisation of childbirth was associated with doctor-patient dynamics that disempowered and delegitimised women, which conflicted with the rise of the Women’s Movement, where resisting pharmacological pain

relief during labour became a signifier of women's power and strength (Michaels, 2018). Subsequently, natural childbirth grew in popularity during 1960's second-wave feminism, seeking empowerment in the face of patriarchal obstetric authority, and coincided with anxieties over perinatal drug treatments following the Thalidomide crisis in 1962 (Burke & Seltz, 2018). Women's traumatic childbirth experiences in the 1940's and 1950's contributed to transformations in maternity care to prioritise women-centred, midwifery care in maternity wards that accommodated partners in redesigned labour and delivery rooms to reflect a more homely environment (Davis, 2013). In the 1980s, shifting values of maternity care and the popularity of epidural analgesia (regarded as allowing women to give birth painlessly whilst still awake and aware), eroded the appeal of natural childbirth (Michaels, 2018). The most recent third-wave of feminist thought revalidates women's right to choose medicalised or natural childbirth, moving toward a more tolerant position (Skowronski, 2015).

Such medical advances in perinatal care have substantially reduced maternal mortality in pregnancy and childbirth. Latest figures report national maternal mortality rates of fewer than ten of every 100,000 women (MBRRACE-UK, 2019), compared to rates reported in the 1920's of one in 200 British women (Camann, 2014). But the extent to which maternity services have reduced psychological trauma from childbirth is not so clear. An eloquent article by historian, Paula Michaels, presents considerable continuity in women's traumatic childbirth experiences over the last fifty years, despite reforms in obstetric practice (Michaels, 2018). Michaels argues that the medicalisation of childbirth has not seen equal progression in improvements of constant and compassionate interpersonal care, which has a critical impact on minimising or averting trauma (Simkin & O'hara, 2002). Additionally, initiatives seeking to reduce stillbirth outcomes have influenced guidelines on obstetric interventions to encourage practices such as induction of labour in circumstances that were not previously

considered high-risk (NHS, 2019a). It is estimated that to avoid one stillbirth, 230 pregnant women need to have their labours induced (Wennerholm et al., 2019) . Although hugely important for the parents whose child's life is saved, there is little acknowledgement of the increased risk of obstetric complications and likelihood of further intervention that arises as a result of induction of labour for the remaining women who receive inductions as a precaution (Zenzmaier et al., 2017). Across England, latest maternity statistics show that 33% of pregnant women have their labours induced, which is an increase of 13% over the last decade (NHS, 2019a). And as labour induction has become more widespread, so too have assisted delivery and Caesarean section rates, with 12% of all deliveries requiring instrumental assistance and 30% resulting in Caesarean section in 2018-2019 (NHS, 2019a). These figures are indicative of a medicalised model of birth, as obstetrician involvement and medical intervention have become routine. Yet the degree to which women are fully informed of these procedures and risks associated with such interventions is variable. Though these changes have been beneficial in reducing stillbirth rates, this does not appear to have translated to a reduction in rates of psychological trauma from childbirth (Michaels, 2018).



## **1.5. Risk factors for postnatal trauma**

The aetiology of postnatal PTSD is multifactorial and reflects an interplay between predisposing vulnerability factors, risk factors associated with the birth itself and maintenance factors after the birth (Ayers, 2004). Unlike most life events, the relatively predictable nature of childbirth means that research can employ a longitudinal design to prospectively measure predisposing factors during pregnancy, as well as precipitating factors during the birth that may predict the later development of trauma symptoms.

### **1.5.1. Pre-existing vulnerability**

The first cross-sectional study to measure postnatal PTSD prevalence rates, amongst a large sample of 1,640 women in Sweden, established significant associations between postnatal PTSD and a previous psychiatric history (Wijma et al., 1997). Since this foundational study, research using longitudinal designs has validated a history of psychiatric problems and in particular, previous trauma history, as vulnerability factors predictive of postnatal trauma (Czarnocka & Slade, 2000; Maggioni et al., 2006; O'Donovan et al., 2014; Soet et al., 2003; Söderquist et al., 2006; Verreault et al., 2012). Previous trauma history and a previous diagnosis of PTSD (unrelated to childbirth) has also been associated with increased risk of pregnancy complications such as ectopic pregnancy, miscarriage and pre-term birth (Seng et al., 2001; Yonkers et al., 2014) and is associated with more risk behaviours during pregnancy (Morland et al., 2007; Seng et al., 2008).

Additional pre-existing vulnerability factors associated with postnatal trauma symptoms include depression during pregnancy (Polachek et al., 2014; Söderquist et al., 2009; Söderquist et al., 2006) and anxiety during pregnancy (O'Donovan et al., 2014; Verreault et

al., 2012). Fear of childbirth measured during pregnancy has been both directly associated with postnatal trauma (Söderquist et al., 2009; Takegata et al., 2017) and indirectly associated with trauma as mediated by the subjective experience of birth (Garthus-Niegel et al., 2013). Demographic factors such as lower socio-economic status, lower education level and black or minority ethnic background have also been associated with increased prevalence of postnatal PTS symptoms (Beck et al., 2011; De Schepper et al., 2016; Zambaldi, Cantilino, & Sougey, 2011)

The mind-set that women enter labour with can also have a significant impact on subsequent appraisals of their birth experience. Soet et al., (2003) found that primigravid women who expected childbirth to be extremely painful were more likely to report their birth as traumatic. In addition, there is inconsistent evidence regarding the impact of having unrealistic or unmet expectations of birth and postnatal trauma. Expressing disappointment due to experiencing unmet expectations after emergency Caesarean section has been associated with later development of postnatal PTS symptoms (Ryding et al., 2000). However, other research has revealed that holding positive expectations of the birth is associated with a positive postnatal appraisal of birth (Slade et al., 1993). It is suggested that a disparity between expectations of support from healthcare professionals during birth and the level of care actually experienced is more predictive of postnatal PTSD compared to high expectations alone (Ballard et al., 1995; Ford & Ayers, 2011). Complications during pregnancy, such as pre-eclampsia, have also been associated with greater postnatal trauma symptom presentation (Adewuya et al., 2006; Engelhard et al., 2002).

### **1.5.2. Birth factors**

A number of events and complications can occur during the birth that women may experience as traumatic. Women who experience severe complications during labour, or neonatal complications during and after the birth, are at greater risk of postnatal PTSD (Elklit et al., 2007; Hoedjes et al., 2011). The prevalence rate of postnatal PTSD is estimated to rise to 18.5% in high-risk groups of women who experience severe pregnancy or delivery complications or have a severe fear of childbirth (Dikmen-Yildiz et al., 2017b). Experiencing an assisted vaginal delivery (with forceps or ventouse) or delivery through emergency Caesarean section have been associated with PTS symptoms after birth (Adewuya et al., 2006; Andersen et al., 2012; Ayers et al., 2009; Creedy et al., 2000; Milosavljevic et al., 2016). Yet, the relationship between obstetric intervention and postnatal PTSD is not consistently found in the literature (Czarnocka & Slade, 2000; Polachek et al., 2012; Söderquist et al., 2002). Other studies have suggested assisted delivery is associated with a traumatic appraisal of childbirth but not independently predictive of postnatal trauma symptoms (MaClean et al., 2000; Soet et al., 2003). Instead, it is suggested that only severe complications can reliably predict postnatal PTSD, whilst more common complications associated with assisted deliveries can increase risk of postnatal PTSD when combined with a negative subjective experience, for example if the mother feels unsupported during birth (Creedy et al., 2000; Ford & Ayers, 2011).

There is a long-standing debate within this field regarding the relative importance of obstetric intervention or maternal morbidity compared to women's subjective experience of childbirth. Reviews that assess both obstetric and subjective factors of labour and birth present the subjective experience to be a better predictor of postnatal trauma compared to the obstetric experience (Andersen et al., 2012; Ayers et al., 2016; Dekel et al., 2017; Grekin & Hara, 2014; Simpson & Catling, 2016). Factors such as perceived lack of support or poor-quality

interactions with staff during birth is consistently attributed as a risk factor for postnatal PTS symptoms (Ayers et al., 2014; Cigoli et al., 2006; Czarnocka & Slade, 2000; De Schepper et al., 2016; Soet et al., 2003; Verreault et al., 2012; Wijma et al., 1997). A sense of a loss of control during birth is also associated with postnatal trauma (Furuta et al., 2016; Harris & Ayers, 2012) as is a sense of dissociation during birth (Haagen et al., 2015; Olde et al., 2005; Thiel & Dekel, 2020; Van Son et al., 2005).

Dissociation during a traumatic experience (peritraumatic dissociation) is defined as ‘a disruption in the normal integration of consciousness, memory, identity, emotion perception, body representation, motor control and behaviour’ (APA, 2013). Acute dissociative responses are thought to occur as a defence mechanism to traumatic events by allowing the individual to compartmentalise and detach from their reality (Brown, 2006). Peritraumatic dissociation is associated with greater likelihood of PTSD development in general trauma research (Briere et al., 2005; Ozer et al., 2003). The theoretical underpinnings of this association are suggested to be due to an interference in the usual processing and encoding of memory (Brewin et al., 2010). Brewin et al., (2010) postulate a dual-representation theory which states that dissociating during trauma prevents the development of an appropriate contextual representation of memory, leaving sensory representations of a trauma memory vulnerable to bottom-up triggers that, once activated, are vividly re-experienced in the present as they lack the corresponding contextual representation. Dissociation during trauma is therefore regarded as a maladaptive response that can leave individuals vulnerable to re-experiencing and subsequent avoidance symptoms following a traumatic event. Research into peritraumatic dissociation during childbirth have revealed greater incidence of dissociation reported by women who experienced assisted delivery or emergency Caesarean section compared to women who had a normal vaginal delivery or planned Caesarean section (Thiel & Dekel,

2020). This research highlights the role of peritraumatic dissociation as a coping strategy during a high-stress delivery environment, rather than just due to mode of delivery (i.e. vaginal versus Caesarean delivery). Longitudinal perinatal research has demonstrated heightened levels of dissociation during birth to be predictive of later postnatal trauma symptom presentation (Haagen et al., 2015; Olde et al., 2005; Van Son et al., 2005). This suggests that the role of peritraumatic dissociation during birth has a similar detrimental impact on psychopathological symptoms to trauma following other non-birth related events.

Qualitative birth trauma research reinstates the significance of a negative subjective birth experience and the presentation of postnatal trauma symptoms. A meta-ethnographic review of qualitative birth trauma studies identified two main themes associated with the birth experience that relate to feeling invisible or out of control and being treated inhumanely (Elmir et al., 2010). Similarly, a qualitative investigation into women's worst 'hotspots' from their traumatic birth experiences revealed a greater likelihood of PTSD when hotspots involved interpersonal factors, such as feeling ignored or experiencing poor communication; fear; lack of control or dissociation during birth (Harris & Ayers, 2012). A recent interview study with women who present with postnatal PTSD emphasised the significance of interpersonal relationships with healthcare professionals during birth in terms of communication of information, support and feeling dignified (Peeler et al., 2018). This interview study also emphasised the potential detrimental impact of alexithymic traits in women with postnatal PTSD who expressed feeling unable to communicate their feelings during and after the birth.

### **1.5.3. Postnatal factors**

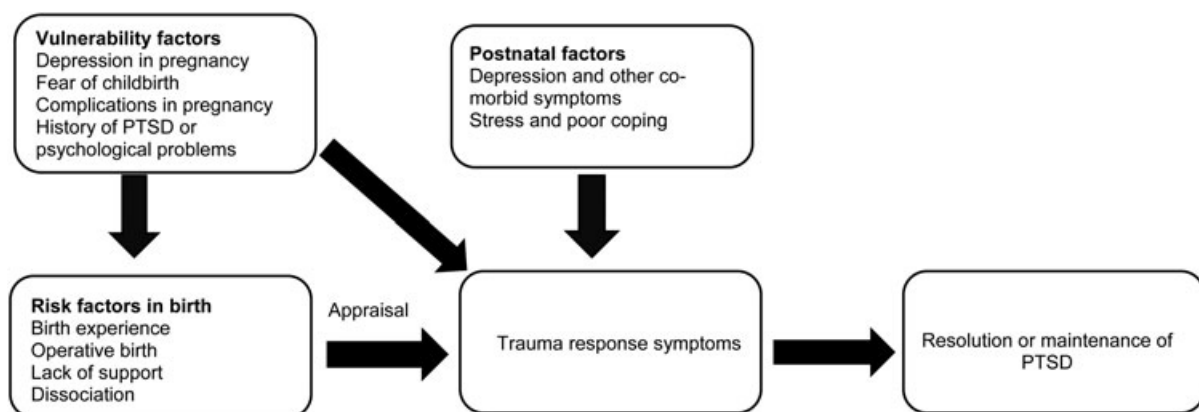
Postnatal factors are aspects that may contribute to the maintenance or resolution of postnatal PTS symptoms. Less research is dedicated to postnatal factors of birth trauma compared to vulnerability and risk factors. However, longitudinal research has suggested that lower social support, measured in the first month postpartum, is predictive of a negative appraisal of childbirth as well as posttraumatic stress symptoms at three-months postpartum (Ford et al., 2010). Conversely, good social support from family and friends is suggested to improve outcomes and help women to resolve and recover from their traumatic childbirth experience, associated with reduced trauma symptom presentation (Edworthy et al., 2008). The importance of postpartum support in ameliorating against postnatal PTS symptoms is consistent with research from non-childbirth related trauma, which theorises that post-trauma social support intervenes between the experience of stress and the onset of psychopathological symptoms by reducing the perceived gravitas of the stressor (Cohen & Wills, 1985).

Additionally, the appraisals women make of their birth experience are associated with postnatal PTSD symptoms, particularly if beliefs surround being to blame for negative aspects of the birth or believing the birth experience has caused permanent, fundamental changes to the mother as a person (Ayers et al., 2009; Ford et al., 2010). The link between negative appraisals of the birth and maintenance of trauma symptoms is in line with cognitive models of PTSD outside of birth-related trauma (Ehlers & Clark, 2000). The cognitive model of PTSD developed by Ehlers and Clark (2000) suggests that a negative appraisal of the trauma event can not only lead to a current sense of threat, but can also motivate dysfunctional behaviours (such as avoidance behaviour) and cognitive strategies (such as thought suppression) that can perpetuate PTS symptoms and prevent changes to the trauma memory. This cognitive model has been applied to postnatal PTS symptoms following

childbirth to predict postnatal trauma from a prior history of trauma and lower self-efficacy measured during pregnancy, which predicted negative appraisals of the birth and subsequent PTS symptoms (Ford et al., 2010).

## 1.6. Postnatal PTSD models

The aetiological pathway of postnatal PTSD follows a diathesis-stress framework combining antenatal, perinatal and postnatal risk factors. Ayers et al., (2016) report the findings from a recent meta-analysis of longitudinal research into birth trauma and presents a theoretical framework of pre-existing vulnerability factors, risk factors in birth and postnatal factors that contribute to the development and maintenance of postnatal PTSD, (*see Figure 1.1.*).



*Figure 1. 1. A diathesis-stress model of the aetiology of birth-related PTSD (Ayers et al. 2016).*

*[Permission granted from Professor Susan Ayers to include in this thesis].*

The conceptual framework of the aetiology of postnatal PTSD, presented in *Figure 1.1.*, draws together key vulnerability, risk and maintaining factors that are identified as having the

strongest associations with postnatal PTSD (Ayers et al., 2016). This meta-analysis of prospective studies produced a comprehensive predictive model of risk factors that can be used for screening, prevention and treatment of trauma symptoms after childbirth. As the authors discuss in their critique of this aetiological model, additional risk factors are likely to contribute to the development of postnatal PTSD, but there is currently insufficient evidence to include them in the meta-analysis. Additionally, the diversity of measures used to assess similar constructs in the longitudinal research included in this meta-analysis, means that some of the constructs in the aetiological model are presented as a collective theme as opposed to a specific risk factor. For example, the construct ‘birth experience’, reported as a risk factor during birth, comprises a negative subjective birth experience, negative emotions during birth and a lack of control or agency (Ayers et al., 2016). The development of this aetiological model is useful in identifying women who may be vulnerable to postnatal PTSD based on specific factors that can be screened during pregnancy and assessment of women’s birth experience postnatally, yet the direct clinical application is tenuous due to the generalised nature of some of the risk factors presented. However, this aetiological framework of postnatal PTSD is currently the most recent and comprehensive diathesis-stress model to synthesise findings into predisposing factors that put women at risk of developing PTSD after childbirth.

## **1.7. Postnatal trauma, depression and anxiety**

An important component of the aetiological model of postnatal PTSD, is the co-morbidity with depression and other symptoms including anxiety and general psychological health after birth (Ayers et al., 2016). Postnatal depression is estimated to affect approximately 13% of



women after birth (O'Hara & Swain, 1996). Postnatal depression has also received considerably more research interest compared to other postnatal psychopathology, and this is reflected by the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987) being the most widely used screening tool in postnatal mental health research (Miller et al., 2006). Research comparing postnatal depression and postnatal trauma report increased rates of depression in the postpartum period amongst women who experienced traumatic childbirth or present with postnatal PTS symptoms (Dekel et al., 2020; Wenzel & Stuart, 2011; White et al., 2006).

The co-occurrence of postnatal depression and postnatal PTSD has a number of clinical implications. Women experiencing psychopathological symptoms after traumatic childbirth may be misdiagnosed in favour of a diagnosis of postnatal depression (Creedy et al., 2000; Taubman-Ben-Ari et al., 2001). As treatments for depression and PTSD differ, this may have a subsequent impact on the effectiveness of postpartum interventions. Similarly, research suggest that anxiety disorders in the postnatal period may be more prevalent than current estimates, but more widely known diagnoses of postnatal depression take precedence (Matthey et al., 2003; Wenzel et al., 2005). As discussed previously, a prerequisite for a diagnosis of PTSD is to have experienced a traumatic event that meets the clinical criteria stipulated in Criterion A of the DSM-5 involving 'actual or threatened death, serious injury or sexual violence' (APA, 2013). A diagnosis of depression or anxiety does not assume a causal basis for symptom development, therefore suggesting distinct aetiological pathways. The development of an aetiological model of postnatal PTSD helps to distinguish postnatal PTSD from other forms of postnatal psychopathology, but further research is warranted to assess the relevant predictive value of vulnerability and risk factors associated with PTS symptoms on measures of postnatal depression and anxiety.

## **1.8. Impact of birth trauma**

Birth trauma has been discussed as having a ripple effect on various aspects of a mother's life and her relationships with her newborn, partner and maternity care providers (Thomson & Schmied, 2017). As discussed above, a negative birth experience can have a significant emotional impact on women and is associated with an increased risk of postnatal PTSD (Garthus-Niegel et al., 2014) and postnatal depression (Dekel et al., 2020; White et al., 2006). Traumatic childbirth can impact a woman's self-worth and generate feelings of inadequacy, guilt and shame, and challenge her identity as a mother (Elmir et al., 2010). Future reproductive choices may be affected because of the development or increase in fear of childbirth affecting planning of future pregnancies (Storksen et al., 2013). A previous traumatic childbirth experience is associated with increased wish for a caesarean section in subsequent births (Storksen et al., 2015). Some women delay further pregnancy following a traumatic birth experience (Thomson & Downe, 2010) and other women decide to not go on to have further children (Ayers, Eagle & Waring, 2006; Nicholls & Ayers, 2007).

Traumatic childbirth can also affect breastfeeding and the mother-infant bond. A qualitative study by Beck and Watson (2008) revealed the impact of birth trauma on breastfeeding in two distinct pathways. Some women took catharsis in breastfeeding following traumatic childbirth as a way to prove themselves as a mother and atone a difficult delivery. Whereas for other women, their traumatic birth experience impeded breastfeeding as women expressed painful reminders associated with the birth and regarded breastfeeding as a further violation of their bodies (Beck & Watson, 2008). Some women also discussed feeling detached from their newborns whilst feeding, which had a detrimental effect on the mother-infant relationship (Moyzakitis, 2004). Qualitative research emphasises the difficulties mothers can face during

milestones, such as baby's first birthday, which can be a period of painful reminders approached with anxiety and guilt for the mother, and evoke detachment towards the infant (Beck, 2006).

Women's relationships with their partners may also be affected following a traumatic childbirth experience. Women commonly report experiencing avoidance of intimacy due to fear of conception or triggering PTS symptoms after the birth (Elmir et al., 2010; Fenech & Thomson, 2014). Qualitative research report women's expressions of blame towards themselves or towards their partners for events that occurred during birth (Ayers et al., 2006; Nicholls & Ayers, 2007). A meta-synthesis of father's experiences of birth trauma revealed themes pertaining to a sense of inadequacy, fear and powerlessness during birth, and experiences of PTS symptoms following the birth (Elmir & Schmeied, 2016). Vicarious trauma has also been reported by healthcare providers who attended traumatic births (Sheen, Spiby & Slade, 2015; Beck & Gable, 2012). Therefore, the effects of birth trauma may be costly both on a personal and societal level and has a ripple effect beyond the mother's experience of childbirth.

## **1.9. Summary**

The literature discussed above addresses some of the contributing factors to the development of birth trauma. As discussed, the relevance of childbirth as a potentially traumatising event for some women is a relatively recent concept, therefore aetiological models for the development of postnatal PTSD is reliant on perinatal research within the last two decades. The acknowledgement of more general constructs within the aetiological model of PTSD poses difficulties in the clinical application of screening potentially vulnerable women in the

antenatal and postnatal period. Additionally, the significance of subjective experience of childbirth, in comparison to the obstetric experience, contradicts the value afforded to an objectively traumatic event as a prerequisite for PTSD diagnosis (APA, 2013). As such, it is important that research is inclusive of women who may present with trauma symptoms but do not meet the threshold for PTSD. The presentation of birth trauma is comorbid with postnatal depression and anxiety and some psychopathological symptoms may overlap. Yet the reliance of an objectively traumatic event as a precursor for trauma symptom presentation, and symptoms of re-experiencing and avoidance of a trauma event, are unique to PTSD and demonstrate that the causes of PTSD are conceptually distinct from those of postnatal depression and anxiety. Distinction of postnatal PTSD from other postnatal psychopathology is important for appropriate identification and treatment of trauma in the postpartum period.

### **1.9.1. Scope of thesis**

The overarching research question of this thesis is to investigate predisposing factors that contribute to the appraisal of birth as traumatic and the development of postnatal PTS symptoms. As demonstrated by the literature presented above, this primary research question is not original, however, gaps remain regarding specific vulnerability factors and aspects of the subjective birth experience and how these relate to women's traumatic appraisals of childbirth and the presentation of postnatal PTS symptoms. The clinical application of existing predictive models is somewhat tenuous due to the large number of different variables that could be defined as contributing to a negative subjective birth experience (Ayers et al., 2016). The empirical research presented in this thesis aims to use quantitative and qualitative methods to collate predisposing factors associated with traumatic childbirth and presentation of PTS symptoms after birth. The motivation behind this research is the clinical application of findings for appropriate screening of women who may be vulnerable to develop postnatal

PTS symptoms and recognition of aspects of current maternity practice that may contribute to a traumatic childbirth experience. The works presented in this thesis address four secondary research questions that are outlined and discussed in more detail below:

**Research Question 1: *What perinatal risk factors are associated with postnatal PTS symptoms?***

The risk factors associated with the birth (perinatal risk factors) typically fall into two categories, 1. Objective factors regarding obstetric interventions or morbidity during birth and 2. Subjective factors associated with the mother's perception of her birth. As discussed previously, reviews of the literature present subjective characteristics of birth to be better predictors of postnatal trauma symptoms compared to obstetric characteristics (Andersen et al., 2012; Ayers et al., 2016; Dekel et al., 2017; Grekin & Hara, 2014; Simpson & Catling, 2016). Yet, less research is dedicated to the interplay between obstetric and subjective characteristics in relation to postnatal PTS symptoms. One experimental analogue study found no interaction between level of obstetric intervention and perceived staff support on later measures of mood and anxiety (Ford & Ayers, 2009). Whereas, a longitudinal birth trauma study did report an interaction between medical intervention and perceived staff support on postnatal trauma symptoms for women with a prior history of trauma (Ford & Ayers, 2011). Therefore, the quantitative research in this thesis aims to assess both subjective and obstetric birth characteristics and the association between women's perception of support during birth and level of obstetric intervention experienced in relation to PTS symptoms among a general population of women in the perinatal period. This is of particular relevance due to the removal of a subjective component of the trauma event from the DSM-IV in favour of a more objective classification of Criterion A in the DSM-5 (APA, 2013).

The inclusion of general constructs of ‘birth experience’ in the aetiological model of postnatal PTSD by Ayers et al. (2016), emphasises the importance of subjective characteristics of negative emotions and sense of control during birth, but the utility of this for clinical application is unclear. As such, the quantitative research presented in this thesis aims to use established scales to assess specific aspects of subjective experience regarding women’s perception of support, fear, internal control, external control and dissociation during birth to clarify which aspects of subjective experience may be more influential in predicting postnatal trauma symptoms. Determining specific elements of women’s subjective birth experience will better enable appropriate assessment and screening for women who may be vulnerable to develop postnatal PTS symptoms. Early monitoring of women who may be at risk of birth trauma is particularly important to ensure families receive appropriate support during the postnatal period.

**Research Question 2: *What perinatal factors contribute to a traumatic appraisal of childbirth?***

As mentioned above, the incidence rate for postnatal PTSD is estimated to be between 4-6% (Dekel et al., 2017), however the prevalence of women who experience their birth as traumatic is approximately one-third (Ayers, 2004). The cognitive model of PTSD presents the significance of a negative appraisal of a trauma event, which can lead to a current sense of threat and motivate dysfunctional behaviours and cognitive strategies affiliated with PTSD symptoms (Ehlers & Clark, 2000). Therefore, it is important that birth trauma research focus on both risk factors for presentation of PTS symptoms, as well as factors that contribute to a traumatic appraisal of childbirth. Quantitative research typically favours either risk factors associated with PTSD diagnosis or PTS symptom presentation after birth. This means that models generated from quantitative research are predictive of postnatal PTSD presentation

rather than a traumatic appraisal of childbirth (Ayers et al., 2016). Qualitative birth trauma research also tends to focus on women who develop postnatal PTSD or experience clinically significant trauma (Ayers, 2007; Beck, 2004; Coates et al., 2014; Peeler et al., 2018). Some qualitative research has explored significant aspects of birth from women who appraised their birth as traumatic (Beck, 2006; Harris & Ayers, 2012; Hollander et al., 2017), however, to date no research has examined birth experiences of women's traumatic and non-traumatic appraisals of childbirth comparatively. Consequently, a gap in the literature remains regarding a qualitative comparison of women's traumatic and non-traumatic birth experiences to identify factors that may contribute to women's appraisal of childbirth, irrespective of postnatal PTSD presentation.

The lack of previous comparative studies suggests that qualitative research is preferable in answering this research question to understand the range of women's subjective birth experiences and how they might lead women to appraise their birth as a traumatic or non-traumatic experience. Therefore, the qualitative research in this thesis focuses on subjective factors of the birth that may contribute to women's appraisals of birth and offers a new comparative framework that can be applied to current maternity practice highlighting significant aspects of women's childbirth experiences.

**Research Question 3: *What antenatal vulnerability factors are associated with postnatal PTS symptoms?***

The unique nature of childbirth as a relatively predictable life event, means that research can incorporate prospective designs to assess vulnerability factors during pregnancy as well as perinatal risk factors and maintenance factors measured postnatally. Prospective birth trauma research has reported several factors that could be screened for during pregnancy to identify

women who may be vulnerable to the development of postnatal PTSD. These largely surround pre-existing symptoms of trauma, depression, anxiety and fear of childbirth (Ayers et al. 2016). The assessment of pre-existing vulnerability factors provides a potentially preventative method to assess risk and formulate appropriate support during and after birth for more vulnerable mothers. Therefore, the longitudinal research in this thesis aims to expand the aetiological model of postnatal PTSD with the possible inclusion of three exploratory predisposing variables.

Recent qualitative research identified alexithymic traits to be associated with a diagnosis of postnatal PTSD (Peeler et al., 2018). The authors speculate that women's inability to express their emotions may have contributed to a perception of poorer quality interactions with healthcare providers during birth and subsequently provoked a traumatic birth appraisal. Yet the retrospective design of this study prevents a causal explanation, which is particularly relevant as alexithymia is associated with posttraumatic responses after non-childbirth related trauma events (Krystal, 1981). The collective research regarding alexithymia and trauma motivated the inclusion of alexithymia as an exploratory vulnerability factor for postnatal PTS symptoms in the longitudinal study presented in Chapter Five of this thesis.

Secondly, research concerning peritraumatic dissociation and postnatal trauma symptoms suggest that dissociation during birth presents as a risk factor for the development of postnatal PTS symptoms (Haagen et al., 2015; Olde et al., 2005; Thiel & Dekel, 2020; Van Son et al., 2005). Yet, the ability to screen for dissociative tendencies during pregnancy would provide a more preventative approach to assessing vulnerability. Therefore, the longitudinal research presented in this thesis assesses both dissociative tendencies, measured during pregnancy, and state dissociation during birth, measured postnatally, to determine the relative predictive



value of trait and state dissociation. In addition, the dual-representation theory of PTSD by Brewin et al., (2010), provides a causal explanation for the development of re-experiencing and avoidance symptoms following dissociation during a traumatic event. The research presented in this thesis aims to explore this theory in relation to postnatal trauma, by separating symptom clusters of trauma and testing the relative predictive value of perinatal dissociation for birth-specific symptoms (i.e. re-experiencing and avoidance) and general trauma symptoms (i.e. negative cognitions, mood and hyperarousal).

The third and final exploratory factor aims to contribute to the literature regarding women's expectations of childbirth and the importance afforded to feeling in control measured antenatally. The literature remains somewhat conflicted regarding the relative importance of women's expectations of birth and the appraisal of childbirth as traumatic or experience of postnatal PTS symptoms (Ballard et al., 1995; Ryding et al., 2000; Slade et al., 1993).

Previous longitudinal research revealed external locus of control as an antenatal vulnerability factor for birth trauma (De Schepper et al., 2016; Soet et al., 2003). Yet a working hypothesis within maternity care surrounds the assumption that women with greater desirability for control are more likely to perceive their birth as a negative experience because of unmet, unrealistic expectations (Green et al., 1990). The longitudinal study presented in Chapter Five assesses women's desirability of control before birth and perception of control during birth to determine the relative influence of control and the development of postnatal PTS symptoms.

**Research Question 4: *Are there aetiological differences between postnatal trauma, depression and anxiety?***

The field of perinatal mental health has been dominated by research into postnatal depression. Subsequently, national guidelines for postnatal mental health screening require healthcare

practitioners to ask women about their mental health before and after birth using two items pertaining to postnatal depressive symptoms: ‘Whooley questions’ (NICE, 2020). NICE guidelines also recommend considering asking women about anxiety symptoms using the two-item Generalised Anxiety Disorder scale (GAD-2). The lack of compulsory trauma-specific screening in perinatal mental health care means that women may be vulnerable to fall through the gaps in accessing appropriate services and support. As research has demonstrated that early detection and treatment of postnatal PTS symptoms can promote a faster recovery and improvement to mother-infant bonding (Chiorino et al., 2020), it is paramount that appropriate early postnatal screening of trauma is incorporated into maternity care.

This research question addresses some of the possible similarities and differences associated with the aetiological pathways for postnatal depression, anxiety and trauma. As discussed previously, there is high comorbidity between postnatal trauma and depression (Dekel et al., 2020; White et al., 2006) and it has been suggested that symptoms of blunted affect and helplessness, associated with depression, can manifest following a failure to resolve a traumatic birth experience (Creedy, 1999). Similarly, postnatal anxiety is a frequent comorbidity with depression and has received limited research attention (Falah-Hassani et al., 2016). A review of risk factors for postnatal depression suggest aspects of the birth experience to be of less significance for depressive symptom development (Robertson et al., 2004), whereas postnatal anxiety and trauma are often associated with a negative birth experience as well as predisposing vulnerability (Dekel et al., 2017; Field, 2018). The quantitative research presented in this thesis measured postnatal depression, anxiety and trauma symptoms separately to explore possible differences in predisposing vulnerability factors and risk factors associated with the birth for all three measures of postnatal psychopathology.

## CHAPTER TWO

### METHODOLOGY

*“The broader one’s understanding of the human experience, the better design we will have.”*

*Steve Jobs*

## **2.1. Preface**

This chapter presents an overview of the mixed methods used in the subsequent empirical chapters of my thesis. I discuss the philosophies underpinning different research methods and then discuss the use of mixed methods approaches in clinical psychology research as well as in the field of nursing and midwifery. Following this, I present some of the advantages to mixed methods and provide a rationale for my chosen approaches in accordance with my primary, overarching research question – what factors may predispose a mother to appraise her birth as traumatic and/or present with symptoms of posttraumatic stress?

## **2.2. Overview of methodology**

The study presented in Chapter Three used a mixed methods survey completed by 222 women in the postnatal period. The survey combined quantitative questionnaire measures regarding women's birth experiences as well as open-question responses that were analysed using conventional content analysis. The mixed design revealed significant birth-related factors that were associated with a negative birth appraisal and the presentation of posttraumatic stress (PTS) symptoms. The data from this survey informed the design of a longitudinal study presented in Chapter Five, and the design of an experiential qualitative interview study presented in Chapter Four. In the qualitative study outlined in Chapter Four, fourteen women participated in semi-structured interviews to discuss their traumatic or non-traumatic childbirth experiences. Interviews were transcribed verbatim and thematic analysis was used as an interpretative phenomenological approach to assess themes associated with women's appraisals of childbirth. These studies resulted in a new framework presenting significant themes associated with a traumatic or non-traumatic appraisal of childbirth.

Chapter Five presents a longitudinal, quantitative study with women from pregnancy through to three-months postpartum. The longitudinal design afforded the assessment of predisposing vulnerability factors measured antenatally, as well as factors associated with the birth and their combined predictive value for the presentation of PTS symptoms three-months postpartum. A total of 226 women completed each stage of the longitudinal survey study and hierarchical regression analysis was used to generate a predictive model of vulnerability and risk factors associated with postnatal trauma symptoms. Finally, Chapter Six presents the findings from a mini focus group conducted with perinatal counsellors. Thematic analysis was used to identify salient themes relating to birth trauma from the perspective of healthcare professionals working with families suffering with trauma after childbirth. Collectively, 464 women participated in this research project and were inclusive of women with both traumatic and non-traumatic appraisals of their birth experiences, presenting with a range of postnatal responses from no symptoms of trauma to clinically significant trauma as a result of childbirth.

### **2.3. Quantitative and Qualitative Methods**

Traditionally, social science research favours one of two approaches. Quantitative research generates numerical data from empirical experiments, reports or closed-question surveys. The approach assumes an objective and measurable reality based on the principles of positivism, which state that authentic scientific knowledge must derive from scientific method free from speculation or subjective interpretation (Johnson & Onwuegbuzie, 2004). Whereas, the philosophy underpinning qualitative research rejects the notion of an objective truth and instead follows a constructivist and interpretivist approach. Qualitative research methods involve gathering non-numerical data through interviews, observations or open-question

surveys and usually produces rich datasets. Analysis of qualitative data requires interpretation of themes generated inductively from the data. Through interpretation, the researcher aims to construct a contextualised understanding of aspects of human experience (Polit & Beck, 2010). In this way, qualitative research is inherently subjective as researchers construct, rather than observe, reality. Therefore, the perspective and position of the researcher is relevant in shaping the interpretation of qualitative findings and it is important to acknowledge such preconceptions through reflexive practice: *"Preconceptions are not the same as bias, unless the researcher fails to mention them"* (Malterud, 2001).

Within the field of perinatal mental health, my researcher position is relatively objective as I have not had personal experience of childbirth or maternity services to draw comparisons. However, I have been involved in the perinatal journey of friends and family and I acknowledge my own preconceptions of birth experience from my own research, exposure to literature in this field and my training as a doula. My experience as a trainee doula particularly reinforced my perspective of the value of compassionate support during labour, birth and postpartum, and the potentially detrimental impact for women who felt unsupported during this time. It was therefore important for me to foster reflexive practice in my research to attend to the context of the interpretations of my qualitative data (Koch & Harrington, 1998). I worked closely with my supervisor throughout all stages of thematic analysis and conducted 'member checking' with perinatal counsellors invited to my focus group to reduce the possibility of researcher bias (Doyle, 2007). I also kept a reflexive journal during data collection and analysis of the two qualitative research studies in this thesis (*Chapter Four and Six*) to record my perspective of interviews and all reasoning behind decisions made during interpretation of themes. In this way, I used reflective practice to systematically attend to the context of knowledge construction and the influence of my own position as a qualitative

researcher at each step of the research process.

## **2.4. Mixed methods research**

Historically, quantitative and qualitative approaches to research methods have been regarded as distinct paradigms (Howe, 1992). However, a mixed methods approach integrates both quantitative and qualitative methods to draw inferences for a focused program of inquiry (Tashakkori & Creswell, 2007). The two methods can be implemented simultaneously in parallel, or sequentially so that the findings from one method of study can influence the design of the next (Morse, 1991). Mixed methods research offers a way of making research more meaningful, complete and purposeful by drawing from a diverse range of research activities and engaging researchers from different paradigms and disciplines (Whitehead & Schneider, 2007). The use of varied research methods can also instil greater confidence in the validity of consistent findings, which are unlikely to be artefacts of a particular methodology (Jick, 1979). Accordingly, mixed methods research is considered to be underpinned by pragmatism, as research approaches are mixed in a way to offer the best opportunity for answering the research question (Johnson & Onwuegbuzie, 2004).

Traditionally, nursing and midwifery research has favoured qualitative methods, whereas medical research typically utilises quantitative methods (Whitehead & Schneider, 2007). However, mixed-methods is evolving within these two fields as multi-disciplinary collaborations become more prevalent (Annells, 2007). Similarly, mixed methods approaches are regarded as particularly useful in clinical psychology research (Bishop, 2015).

Triangulation of quantitative and qualitative methods, which integrate clinical or statistical significance and lived-experience, provides a more holistic approach to advance clinical

theory and practice in a way that is effective and appropriate for service users (Onwuegbuzie & Leech, 2004). The pragmatist philosophy supports the notion that research should be evaluated in terms of its real-world application and external consequences. In the context of clinical psychology, consequences could include increasing effectiveness of healthcare services or developing effective and appropriate interventions.

This thesis utilises a mixed methods approach incorporating quantitative questionnaire data, semi-structured qualitative interviews and open question survey data. The scope of this thesis is to identify factors that may contribute to a traumatic appraisal of childbirth and predispose women to present with postnatal posttraumatic stress symptoms. The clinical implications of this research are associated with effective screening measures for birth trauma and identifying salient aspects of the birth experience to inform maternity care practice. To effectively address this research question, it is important that findings are representative and can be generalised to the wider population of women in the perinatal period. Equally important is garnering a deeper understanding of women's lived experiences to establish appropriate inferences to inform future research and practice. With this in mind, the first quantitative study (*Chapter Three*) incorporates both quantitative and qualitative questionnaire data to explore risk factors correlated with posttraumatic stress symptoms as well as salient themes from women's birth experiences associated with a traumatic appraisal of childbirth. Using a sequential approach, the findings from this study informed the design of a qualitative interviews study with women in the postpartum period (*Chapter Four*). These data provided a rich insight into contributory factors to a traumatic or non-traumatic appraisal of childbirth. Additionally, a larger quantitative, longitudinal study was conducted to identify predisposing antenatal and perinatal factors for the presentation of postnatal trauma symptoms (*Chapter Five*). Taken together, the quantitative data resulted in a comprehensive predictive model of



vulnerability factors for postnatal trauma. Finally, a qualitative focus group study was designed to garner a more in-depth understanding of the lived experience of birth trauma from the perspective of perinatal counsellors (*Chapter Six*). Presenting a healthcare professional perspective also provided information regarding the effectiveness of current maternity care practice and appropriateness of future directions for research and practice from this collective body of work.

## CHAPTER THREE

### RETROSPECTIVELY MEASURING PERINATAL RISK FACTORS FOR TRAUMA AFTER CHILDBIRTH

*“If a woman doesn’t look like a goddess during labour, then someone isn’t treating her right.”*

*Ina May Gaskin*

### **3.1. Preface**

As discussed previously, my PhD research incorporated a mixed-methods approach to investigate predisposing factors associated with a traumatic appraisal of childbirth and presentation of postnatal PTS symptoms. This chapter outlines the first birth trauma study conducted in my PhD. Study I was a retrospective, mixed-methods questionnaire completed by women in the postpartum period. The rationale for conducting a mixed-methods questionnaire study was to gain a more in-depth understanding of the factors associated with childbirth that contribute to women's appraisal of birth as traumatic and presentation of postnatal trauma symptoms. The findings from this study would inform the design for an interview study (*Chapter Four*) and a longitudinal study (*Chapter Five*), which combines predisposing vulnerability factors measured during pregnancy with factors associated with the birth and their combined association with postnatal trauma. The combination of quantitative and qualitative measures in Study I afforded a deeper understanding of the relative contributions of both subjective and objective factors associated with a traumatic birth experience and the interplay between obstetric intervention and perceived support during birth.

### **3.2. Introduction to Study I**

In recent years, birth trauma has become the focus of much perinatal research. The experience of childbirth can be a triggering event for mothers and lead to symptoms of postnatal Posttraumatic Stress Disorder (PTSD) including intrusive flashbacks of the birth, avoidance of hospitals or future pregnancy, or feelings of irritability, fear, guilt and shame (APA, 2013). A systematic review estimated postnatal PTSD prevalence to be between 4.6-6.3% (Dekel et

al., 2017). This rate of incidence is estimated to rise to 18.5% in high-risk groups of women who experience severe pregnancy or delivery complications, have a history of physical or sexual trauma or have a severe fear of childbirth (Yildiz et al., 2017). However, the experience of birth trauma affects many more women who do not meet the clinical cut-off for PTSD but display symptoms of traumatic stress following birth (Ayers, 2004).

Several studies have identified high levels of medical intervention or obstetric complications during birth as risk factors for postnatal PTSD (Adewuya et al., 2006; Andersen et al., 2012; Milosavljevic et al., 2016). However, this is not a clear and linear relationship consistently found in the literature. Other studies have found no relationship between mode of delivery and postnatal PTSD (Czarnocka & Slade, 2000; Söderquist et al., 2002) and others report medical intervention to be associated with a traumatic appraisal of birth, but not the development of PTSD (Soet et al., 2003). It is important to note that obstetric complications are not a prerequisite for a traumatic childbirth experience. Similar to the general traumatic stress field, there is no dose-response connection between severity of the traumatic event and subsequent PTSD (McNally, 2003). Instead, a birth without complications may be appraised as traumatic if the mother experiences poor quality interactions with healthcare providers leading to a negative perception of her childbirth experience (Elmir et al., 2010; Patterson et al., 2019; Simpson & Catling, 2016). Recent reviews of birth-related PTSD present subjective birth experience to be a stronger contributing factor of trauma compared to obstetric factors (Ayers et al., 2016; Dekel et al., 2017). A subjectively traumatising birth can include high levels of distress, fear for the self and/or baby, lacking control over the birth, or feeling unsupported (Garthus-Niegel et al., 2013; Soet et al., 2003; Söderquist et al., 2009).

It is suggested that a high level of medical intervention during childbirth can be a greater risk factor for postnatal PTSD when also combined with poor perception of care (Creedy et al., 2000). This suggests that the subjective experience of feeling unsupported during childbirth can be an additive factor for birth-related PTSD in births requiring high levels of intervention. This is supported by qualitative research that revealed interpersonal difficulties, such as feeling abandoned, being ignored and lacking support, were commonly identified as women's worst 'hotspots' during their traumatic childbirth experience (Harris & Ayers, 2012). Conversely, a supportive birth environment can provide a protective barrier against the potentially negative impact of birth with high levels of medical intervention for women with experience of prior trauma (Ford & Ayers, 2011).

The role of social support in general, non-perinatal, trauma research presents a dual function. Firstly, peritraumatic support buffers against a stress appraisal response when an individual perceives others with the ability to provide necessary resources to cope, or reinforce one's own self-efficacy to cope, with imposed demands of the stressor. Secondly, post-trauma social support can reduce the stress reaction and intervene between the experience of stress and the onset of psychopathological symptoms by reducing the perceived gravitas of the stressor (Cohen & Wills, 1985). In the context of childbirth, this would manifest in supportive maternity staff who provide encouragement to bolster women's perceived ability to cope with the demands of birth, and facilitate a trusting relationship whereby the mother feels confident in healthcare professionals' competency to deliver her baby safely when medical intervention is required. Additionally, postnatal social support can reduce the mother's stress response and may result in reappraisal of the stressful birth experience. Both functions of social support have been demonstrated in perinatal research. Longitudinal research identified low social support at three-weeks postpartum as a significant predictor of postnatal trauma (Ford et al.,

2010). This suggests that early postnatal social support holds the potential to increase likelihood of recovery from initial trauma symptoms after the birth. Additionally, experimental research showed that in hypothetical scenarios, participants valued support from healthcare practitioners and perceived sense of control over and above objectively stressful events during the birth (Ford & Ayers, 2009). Collectively, the literature suggests that level of support during and after birth is a key factor in women's appraisal of birth and postnatal responses.

The experimental analogue study by Ford and Ayers (2009) showed no significant interaction between obstetric events and perceived support in predicting changes in anxiety or mood following exposure to birth trauma stories. However, longitudinal clinical research has identified a significant interaction between high levels of obstetric intervention and support during birth on postnatal PTS symptoms in women with a prior history of trauma (Ford & Ayers, 2011). The authors assume this discrepancy in findings to be due to methodological differences, as reassurance from caregivers during the actual experience of obstetric interventions would hold greater importance in ameliorating fear responses than in analogue birth scenarios. An alternative explanation could be the greater importance afforded to good perceived support during birth for women who have a history of prior trauma. It remains unclear whether support during birth could buffer the potentially detrimental impact of level of obstetric intervention on postnatal PTS symptoms within a general population of women.

The current study aimed to measure the interaction between subjective experience of birth and level of obstetric intervention, and their effect on trauma symptoms amongst women during the postpartum period. A questionnaire was designed to assess whether feeling supported during childbirth could mediate the potentially negative impact of a birth requiring

medical intervention. Alongside perceived support during birth, women also reported their perceived level of fear and pain during their most recent childbirth experience. These two factors were assessed separately to identify which specific aspects of the subjective birth experience may contribute to postnatal trauma symptoms. In general trauma research, pain has been found to be linked to the development of PTSD (Schreiber & Galai-Gat, 1993) but the picture is less clear in the context of childbirth. Some perinatal studies have found labour pain to be related to postnatal trauma, (Soet et al., 2003; Stramrood et al., 2011) whereas others have found no such relationship (Czarnocka & Slade, 2000; Keogh et al., 2002; Söderquist et al., 2002). Longitudinal perinatal research presents the relationship between labour pain and postnatal trauma symptoms to be mediated by the overall subjective birth experience (Garthus-Niegel et al., 2014; Van Son et al., 2005). One study found that fear of pain measured antenatally significantly predicted PTS symptoms at one-month postpartum, rather than self-reported pain during labour (O'Donovan et al., 2014). General fear of childbirth has been associated with PTS symptoms both directly and indirectly through the subjective birth experience (Garthus-Niegel et al., 2013). Perinatal fear during the birth has also been found to be predictive of postnatal PTSD (Czarnocka & Slade, 2000). Therefore, in the current study, the subjective birth experience was measured using separate subscales for perceived staff support, fear and pain during birth, to explore their relative associations with postnatal trauma symptoms compared to the obstetric birth experience.

Alongside postnatal trauma, the current study also incorporated measures of postnatal depression and anxiety. Postnatal depression has largely dominated the field of perinatal mental health, but research suggests high comorbidity between trauma and depression, as well as depression and anxiety in the postpartum period (Dekel et al., 2020; Falah-Hassani et al., 2016; White et al., 2006). The causes of maternal mental health problems are

multifactorial and include predisposing vulnerability factors, such as previous psychological problems, as well as perinatal factors surrounding the birth itself (Ayers et al., 2016). A review of risk factors for postnatal depression suggest aspects of the birth experience to be of less significance for development of depressive symptoms (Robertson et al., 2004), whereas postnatal anxiety and trauma are more often associated with a negative birth experience as well as predisposing vulnerability (Bell et al., 2016; Dekel et al., 2017; Field, 2018). The current study implemented measures for postnatal trauma, depression and anxiety symptoms separately to explore potential differences in the predictive value of aspects of the subjective and obstetric birth experience for each measure of postnatal psychopathology.

Finally, the questionnaire design in the current study incorporated both quantitative and qualitative measures to gain a more in-depth understanding of factors that contribute to women's appraisals of their traumatic birth experiences. The use of free-text responses for women to narrate their birth stories has been implemented in several qualitative birth trauma studies (Beck, 2004; Harris & Ayers, 2012; Henriksen et al., 2017). A seminal qualitative study by Beck (2004) highlighted the significance of subjective birth characteristics in women's accounts of their traumatic birth experiences, many of which were viewed as routine by clinicians. Similarly, a meta-ethnographic review of qualitative birth trauma studies identified two main themes associated with the birth experience: 1. feeling invisible and out of control and 2. being treated inhumanely (Elmir et al., 2010). This further emphasises the significance of a woman's subjective experience of birth rather than her obstetric experience. Free-text responses of traumatic birth experiences were included in the current study to improve understanding of the relative weight of obstetric and subjective factors on the trauma-linked appraisals mothers make about their births.



The focus of the present study was to find out how birth characteristics are related to the appraisal of birth as traumatic and the presentation of PTS symptoms in the postpartum period. The objectives of the current study are as follows:

- 1) To test the association between subjective factors: perceived support, fear and pain and postnatal psychopathology and assess the relationship between obstetric intervention and support on PTS symptoms.
- 2) To explore possible differences in perinatal risk factors associated with postnatal trauma compared to postnatal depression or anxiety.
- 3) To qualitatively explore factors that contribute to women's appraisal of their birth as traumatic.

### **3.3. Method**

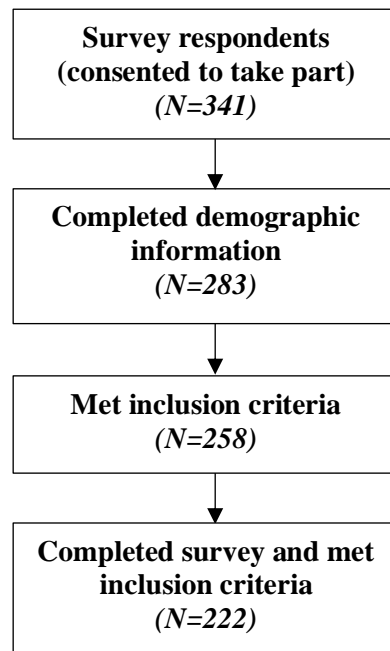
#### **3.3.1. Design**

This study was an online, mixed-methods survey of women's birth experiences and symptoms of psychopathology postpartum completed by women who had given birth within the last year (mean 5.6 months postpartum, [SD = 3.2 months]). The survey contained both quantitative and qualitative accounts of women's experiences of their most recent childbirth experience. Prior to recruitment, ethical approval was obtained by the University of Plymouth, Faculty of Health and Human Sciences' Ethics Committee (*reference: 17/18-929*).

#### **3.3.2. Participants and Recruitment**

Women who lived in the UK, were over the age of 18 years and delivered a live baby within the last twelve months were invited to take part in the study. Participants were recruited from local mother and baby groups in the South West of England, online forums and social media pages aimed at new mothers. The study was also advertised on a national app for mothers called '*Happity*' (previously '*Mummy Links*'). The app is used by new and expectant mothers to organise meet-ups and gain information about postnatal life. The study was only advertised on social media pages and forums whereby consent had been attained by group organisers and moderators. The study was advertised over a three-month period from October 2018 to December 2018. A total of 341 participants consented to take part in the study and from this sample, 222 participants completed the survey in full and met all inclusion criteria (see *Figure 3.1*). Participants who did not meet inclusion criteria ( $n=25$ ) reported their most recent birth to have been more than one year ago. Eighteen women reported their most recent birth to have been within the last two years and five women reported their most recent birth to have

been two or more years ago. Additionally, two participants did not provide a date of birth and were subsequently removed from analysis. The final sample put forward for analysis was  $N=222$ .



*Figure 3. 1. Breakdown of sample size for Study I.*

### **3.3.3. Measures**

In addition to general demographic information, participants were asked to complete various scales to measure their subjective birth experience and level of obstetric intervention experienced during their most recent birth, as well as report any current symptoms of postnatal trauma, depression or anxiety. The survey included the following measures:

#### *3.3.3.1. Birth Characteristics*

##### Subjective Birth Experience

Women's subjective perception of their most recent birth experience was measured using the Perception of Labour and Delivery Scale (PLDS) (Bailham et al., 2004). The PLDS

comprises three subscales; the first consists of seven items to measure perceived staff support and includes questions such as: '*How much did you feel that your wishes and views were listened to by staff during your labour and delivery?*' The support subscale of the PLDS showed good inter-item reliability with this sample ( $\alpha=.82$ ). The second subscale comprises four items relating to the perceived level of pain during labour and the third subscale consists of four items regarding perceived level of fear for self and baby during birth, (e.g. '*At its worst, how fearful did you feel for yourself during your labour and delivery?*'). Both subscales for pain and fear showed good inter-item reliability with this sample ( $\alpha=.87$  and  $\alpha=.87$ ). Participants responded on a scale of 1 to 10 (not at all – extremely) and analysis was conducted on total scores for each subscale. Factorial validity was illustrated by Bailham et al., (2004) who used principal component analysis to identify the structure and factors of the measure.

### Obstetric Intervention

The Intrapartum Intervention Score (IIS) (Clement et al., 1999) measured level of medical intervention experienced during birth. Women selected the obstetric procedures they experienced on a 19-item list that includes Forceps/Ventouse Delivery, Episiotomy, Internal Monitoring etc. The total level of intervention was generated from the weighted sum of pre-calculated scores for each item. The IIS has been used in previous research to investigate the interaction between staff support and obstetric intervention on postnatal trauma symptoms (Ford & Ayers, 2011) and so was incorporated into the current study as a self-report alternative to retrieving participants' medical notes from their birth.

### Free-text Responses

In addition to the above scales to measure participants' subjective and obstetric birth experience, participants were asked whether they experienced any complications during their most recent labour/delivery and whether they considered their most recent birth to be traumatic. Both of these questions required a Yes/No response (with the option to select '*prefer not to say*'). Selecting '*Yes*' to either of these questions opened up a free-text response box for participants to elaborate on their birth experience.

### 3.3.3.2. *Postnatal Symptoms*

#### Trauma Symptoms

Postnatal trauma symptoms were measured using the Traumatic Event Scale (TES-B) (Wijma et al., 1997). The TES-B is a 23-item scale to measure trauma symptoms following childbirth specifically and is in line with the DSM-IV criteria for PTSD (APA, 2000). The first four questions relate to criterion A, which defines childbirth as a potentially stressful experience, e.g., '*During labour/delivery I was afraid that I or my baby would be hurt or was going to die*'. Participants respond to these four items on a four-point rating scale ranging from '*Not at all*' – '*Very much*'. The following 17 items of the TES-B refer to individual trauma symptoms from the PTSD symptom clusters B, C and D of the DSM-IV (re-experiencing; avoidance/numbing and hyperarousal). Items pertaining to PTSD symptoms include: '*Unpleasant thoughts and images of the delivery experience force themselves on me*', rated from '*Not at all*' – '*Often*'. The final two items of the TES-B refer to Criteria E and F and require participants to rate how much symptoms have affected their daily lives, as well as how long they have been affected, on a 10-point sliding scale. Scoring of the TES-B involves generating a total symptom score for all 17-items relating to PTSD symptom clusters B, C and D. The items pertaining to symptom clusters in the TES-B showed excellent inter-item reliability with this sample ( $\alpha=.93$ ).

The TES-B can also be used as a provisional diagnostic tool by calculating the number of symptom clusters endorsed by participants according to DSM-IV guidelines:  $1 \leq$  re-experiencing symptom,  $3 \leq$  avoidance/numbing symptoms and  $2 \leq$  hyperarousal symptoms, alongside the endorsement of Criterion A and significant impact on daily life for more than 1 month (APA, 2000). The TES-B was selected because of its specific application to childbirth related trauma as opposed to other trauma symptom scales that measure PTSD symptoms more generally e.g. Impact of Event Scale, (Horowitz et al., 1979).

### Depression Symptoms

Postnatal depression was assessed using the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987). The EPDS is comprised of 10-items and includes items such as: *'I have blamed myself unnecessarily when things went wrong'*. All items are measured on a 4-point response scale whereby higher scores indicate greater risk of depression. The EPDS showed excellent inter-item reliability with this sample ( $\alpha=.90$ ).

### Anxiety Symptoms

Postnatal anxiety was measured with the Generalised Anxiety Disorder assessment (GAD-7) (Spitzer et al., 2006). The GAD-7 is a 7-item scale measured on a 4-point rating scale that requests participants to report how often they experience symptoms of anxiety over the past two weeks ranging from *'Not at all'* – *'Nearly every day'*. Scoring of the GAD-7 involves calculating a total symptom score from all seven items with higher scores indicative of greater anxiety. The GAD-7 showed good inter-item reliability with this sample ( $\alpha=.89$ ).

### **3.3.4. Procedure**

The study advertisement linked directly to the online questionnaire hosted on the survey software, 'Survey Monkey'. Upon clicking the link, participants were presented with a study brief and an informed consent page. The consent page was embedded with a 'token' that generates a unique participant ID number used in analysis. The survey was completed anonymously and no personal identifiable information was collected from participants. The final page of the survey consisted of a debrief with the aims of the current study and contact information for postnatal mental health charities and resources e.g. Mind and PANDAS foundation.

### **3.3.5. Missing Data**

Randomly missing data were replaced with the individual's mean score for that particular subscale provided >90% of the subscale had been completed (Tabachnick et al., 2007). Eight participants had one item missing (representing 0.07% of total data collected) and so the missing item was replaced with their calculated mean for that particular measure. This algorithm was employed for all scales excluding the Intrapartum Intervention Score (IIS) whereby a missing data item was computed as a negative endorsement. An additional three participants had one item missing from the IIS representing 0.07% of the total data for this subscale. There were no cases with <90% completion of any individual subscale and no participants presented with missing data from more than one scale. Therefore, all participants who completed the survey and met inclusion criteria were included in all analyses.

### **3.3.6. Data analysis**

The data from all quantitative measures were analysed using bivariate correlational analyses to assess the relationship between birth experience and postnatal psychopathology. Following

this, in alignment with study objective one, hierarchical multiple regression analyses were conducted to generate a model with all measures of birth experience inputted to predict variance in postnatal trauma symptoms. Mediation analysis was conducted to explore the relationship between level of intrapartum intervention and trauma symptoms as mediated by perceived support during birth. With reference to study objective two, this model was then applied to postnatal depression and anxiety to assess possible differences in aetiology of symptoms. Finally, in line with study objective three, the free-text responses were analysed using conventional content analysis (CCA). CCA was preferred as an inductive method to provide insight into women's appraisals of their traumatic birth experiences directly from participant responses without relying on predetermined categories (Kondracki et al., 2002). Analysis comprised of reading through all responses whilst noting exploratory comments during the initial stage of analysis. All responses were then read again to determine codes that capture key concepts which were then organised into categories of meaningful clusters that became the overarching themes (Hsieh & Shannon, 2005). This process of refinement was conducted by both the researcher and the researcher's supervisor independently before discussing together. Following analysis, a framework of themes was generated (*Figure 3.3*) comprising all major themes and corresponding subthemes with the frequency of which each theme emerged in the data.



## 3.4. Results

### 3.4.1. Sample Characteristics

Demographic information for participants is presented in *Table 3.1*. Participants were predominantly white (98.2%) and married or living with their partner (88.3%).

Approximately two-thirds of participants were first time mothers ( $n=140$ ). The majority of women (64%) were between the ages of 25 – 34 years, which reflects the national statistics of ages of mothers giving birth in the UK in 2018 - 2019, 58.5% of whom fell within this age bracket (NHS Digital, 2019). The prevalence rates for caesarean sections in this sample also reflect national figures for elective (13%) and emergency caesareans (16%) (NHS, 2019a).

*Table 3. 1. Sample characteristics from demographic information and mode of delivery (N=222)*

Sample Characteristics	Frequency (%)
Age	
18-24 years	41 (18.5%)
25-34 years	142 (64%)
35-44 years	39 (17.6%)
Relationship Status	
Single or Separated	24 (10.9%)
Living with Partner	62 (27.9%)
Married	134 (60.4%)
Ethnicity	
Asian or Asian British	1 (0.5%)
Black or Black British	2 (0.9%)
Other Ethnicity Group	1 (0.5%)
White	218 (98.2%)
Parity	
Primiparous	140 (63.1%)
Multiparous	82 (36.9%)
Caesarean Section	
Elective Section	21 (9.5%)
Emergency Section	31 (14%)

### 3.4.2. Trauma Symptoms

Based on TES-B scores, 17 women (7.7%) met full DSM-IV criteria for PTSD related to childbirth (criteria A-F). A further 16 women (7.2%) met partial criteria for PTSD defined as meeting at least one of the DSM-IV PTSD symptoms from each symptom group: re-experiencing, avoidance/numbing and increased arousal, with symptom duration for at least 1 month (Stein et al., 1997). The symptom profile for postpartum PTSD within this sample is presented in *Table 3.2*. As within-group numbers were small, analysis was based on total trauma symptom scores from the full sample ( $N=222$ ). The mean trauma symptom score was  $M=27.71$ , ( $SD=10.64$ ).

*Table 3. 2. Postpartum PTSD symptom profile measured with the TES-B in alignment with DSM-IV criteria (N=222)*

	Met PTSD criteria N (%)
Criterion A	
Perceived birth as a trying experience	80 (36%)
Perceived threat to physical integrity	19 (8.6%)
Perceived threat of injury or death	62 (27.9%)
Intense fear, helplessness or horror	48 (21.6%)
Symptom Clusters	
B: Re-experiencing ( $\geq 1$ )	44 (19.8%)
C: Avoidance/Numbing ( $\geq 3$ )	55 (24.8%)
D: Hyperarousal ( $\geq 2$ )	103 (46.4%)
PTSD Criteria	
E: Symptom duration ( $\geq 1$ month)	104 (46.8%)
F: Distress and Impairment ( $\geq 5$ )	71 (32%)
Met all symptom clusters (B, C & D)	20 (9%)
Met all PTSD criteria (A-F)	17 (7.7%)

### 3.4.3. Bivariate Correlational Analysis

Pearson bivariate correlation coefficients between birth characteristics and postnatal depression, anxiety and trauma symptoms are presented in *Table 3.3*. Prior to analysis, the relevant assumptions were tested and examination of scatterplots indicated the assumption of linearity was satisfied.

Table 3. 3. Pearson *r* correlations between all measures (N=222)

	EPDS	GAD-7	IIS	PLDS (Pain)	PLDS (Fear)	PLDS (Support)
TES-B	.69***	.65***	.21**	.30***	.50***	-.49***
EPDS		.77***	.05	.21**	.36***	-.32***
GAD-7			.01	.19**	.39***	-.29***
IIS				.29***	.25***	-.28***
PLDS (Pain)					.35***	-.51***
PLDS (Fear)						-.37***

*Note.* The scale descriptions are as follows: TES-B = Traumatic Event Scale; EPDS = Edinburgh Postnatal Depression Scale; GAD-7 = Generalised Anxiety Disorder assessment; IIS = Intrapartum Intervention Score; PLDS = Perception of Labour and Delivery Scale (comprised of three subscales for perceived Pain, Fear and Support)

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Postnatal trauma symptom scores (*TES-B*) were significantly associated with postnatal depression and anxiety. Total trauma symptom score was also associated with all three subjective measures of birth: lower perceived support and greater self-reported fear and pain. Additionally, trauma symptoms shared a significant positive correlation with level of obstetric intervention experienced (IIS), although obstetric intervention was not significantly associated with either depression or anxiety.

#### 3.4.4. Multiple Regression Analysis

A multiple regression analysis was conducted to test the extent to which the obstetric and subjective birth experience can explain postnatal trauma symptoms. Prior to performing the regression, the relevant assumptions for singularity, normality, linearity and individual outliers were tested (Field, 2013). Firstly, examination of bivariate correlation coefficients (*Table 3.3.*) revealed that no independent variables were highly correlated and inspection of tolerance statistics and variance inflation factors (VIFs) showed no indication of

multicollinearity (VIF <1.45). An examination of the Mahalanobis distance scores indicated no multivariate outliers and the plots for standardised residuals presented no individual outliers (Std. Residual > -2.38, < 2.99). Finally, inspection of residual and scatter plots indicated that the assumptions of normality and linearity were satisfied. Therefore, no participants were removed for the regression analysis and the sample size was retained at  $N=222$ .

A two-stage hierarchical multiple regression analysis was performed to predict variance in postnatal trauma symptoms and the results from the regression are presented in *Table 3.4*. Level of obstetric intervention experienced was inputted at stage one using forced entry and independently explained 4.3% of the variance in postnatal trauma symptoms ( $F(1,218)=9.90$ ,  $p=.002$ ). The three subjective measures of birth (perceived fear, pain and support) were then inputted at stage two using forced entry. The second model accounted for 35.7% variance in trauma symptoms overall, which was a significant improvement on model one,  $Adj. R^2=.36$ ;  $\Delta R^2=.32$ ;  $F(3, 215)=34.98$ ,  $p<.001$ . However, only level of perceived support and level of perceived fear during birth significantly contributed to the model. Level of pain during birth did not independently improve the model. The introduction of subjective measures of birth reduced the effect of obstetric intervention on trauma symptoms to non-significance. Therefore, the results suggest that lower perceptions of support and greater fear shared independent variance with levels of trauma symptoms, over and above the perception of pain and obstetric intervention.

Table 3. 4. Summary of hierarchical regression analysis on total postnatal trauma symptoms (N=222)

Model	<i>b</i>	<i>SE b</i>	<i>St. β</i>	<i>p</i>	95% CI	
					<i>lower</i>	<i>upper</i>
1						
Obstetric Intervention (IIS)	.12	.04	.21	.002	.04	.19
2						
Obstetric intervention (IIS)	.01	.03	.02	.80	-.06	.07
Fear (PLDS)	.38	.06	.37	<.001	.26	.50
Pain (PLDS)	-.03	.07	-.02	.72	-.17	.12
Support (PLDS)	-.29	.05	-.36	<.001	-.40	-.19

Note. Model 1:  $R^2=.043$ ,  $Adj.R^2=.037$ ,  $F(1,218)=9.90$ ,  $p=.002$ ; Model 2:  $R^2=.357$ ,  $Adj.R^2=.345$ ,  $F(4,215)=29.870$ ,  $p<.001$ .

### 3.4.5. Mediation Analysis

As demonstrated in the hierarchical regression analysis above, the addition of subjective birth characteristics reduced the effect of obstetric intervention on trauma symptoms to non-significance. To test a possible indirect effect of obstetric intervention on trauma symptoms via perceived staff support, mediation analysis was conducted using SPSS PROCESS macro version 3.3 (Hayes, 2017). The mediation model is presented in Figure 3.2.

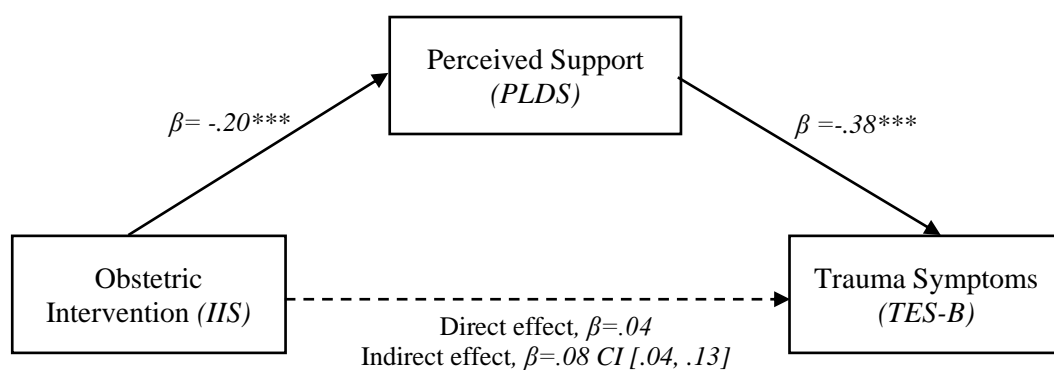


Figure 3. 2. Mediation model with beta coefficients for the relationship between level of obstetric intervention (IIS) and postnatal trauma symptoms (TES-B) as mediated by perceived support during birth (PLDS).

Note: Solid lines indicate significant effects. \*\*\* $p<.001$

As shown in *Figure 3.2.*, mediation analysis revealed a significant negative indirect effect of intrapartum intervention on trauma symptoms via perceived support, ( $\beta=.076$ ; 95% CI [.035, .126]). The addition of perceived support reduced the effect of obstetric intervention on trauma symptoms to non-significance and instead provided an alternative route via perceived support, consistent with full mediation. This suggests that feeling supported during birth can buffer the potentially traumatising effects of a birth that requires obstetric intervention. This indirect effect was reduced but retained after accounting for postnatal depression and anxiety as potential covariates, ( $\beta=.040$ ; 95% CI [.018, .066]).

#### **3.4.6. Testing the model with postnatal depression and anxiety**

Postnatal depression and anxiety were also measured as part of the survey and were highly correlated with postnatal trauma symptoms (*Table 3.3.*). Inspection of collinearity statistics between these factors revealed tolerance and VIF scores that were relatively high, but within the accepted limits ( $VIF < 2.59$ ). To test whether the regression model (*Table 3.4.*) was indicative of general postnatal psychopathology, or whether these variables are predictive of trauma specifically, the regression model was implemented for symptom scores from the EPDS and the GAD-7 separately. Standardised residuals for both measures revealed no individual outliers (Std. Residuals  $> -2.03$ ,  $< 2.98$ ) and histograms of standardised residuals for both depression and anxiety scores indicated normal distribution of errors. Finally, scatterplots of standardised residuals showed that the data met the assumptions of homogeneity of variance and linearity. Therefore, both regression analyses were conducted with the full sample of participants ( $N=222$ ).

At stage one, level of intrapartum intervention did not significantly predict variance in either depression or anxiety symptoms. At stage two, addition of subjective birth characteristics significantly improved the model and explained 17.2% variance in anxiety symptoms overall, ( $Adj. R^2=.17$ ;  $\Delta R^2=.19$ ;  $F(4, 215)=12.37$ ,  $p<.001$ ), and explained 15.8% of depression symptoms overall, ( $Adj. R^2=.16$ ;  $\Delta R^2=.17$ ;  $F(4, 215)=11.26$ ,  $p<.001$ ). For both models, only perceived support and perceived fear during birth significantly contributed to the explained variance. Pain and level of obstetric intervention did not independently predict postnatal anxiety or depression symptoms.

### **3.4.7. Free-text responses**

As part of the survey, women were asked whether they experienced complications during the birth as well as whether they considered their birth to have been traumatic. Responding ‘Yes’ opened a text field inviting women to expand on their answers. Seventy-nine women (36%) reported to have experienced complications during their birth and almost half of these women also stated that they found their birth to have been traumatic ( $n=39$ ). In total, sixty-four women (29%) reported their birth experience as traumatic, 39% of whom did not report experiencing obstetric complications. Conventional Content Analysis (CCA) of the free-text responses revealed five overarching themes for aspects of women’s experience of traumatic childbirth: Obstetric Factors; Lack of Control; Concern for Baby; Psychological Trauma and Lack of Support. A framework with all themes and corresponding subthemes is presented in *Figure 3.3*.

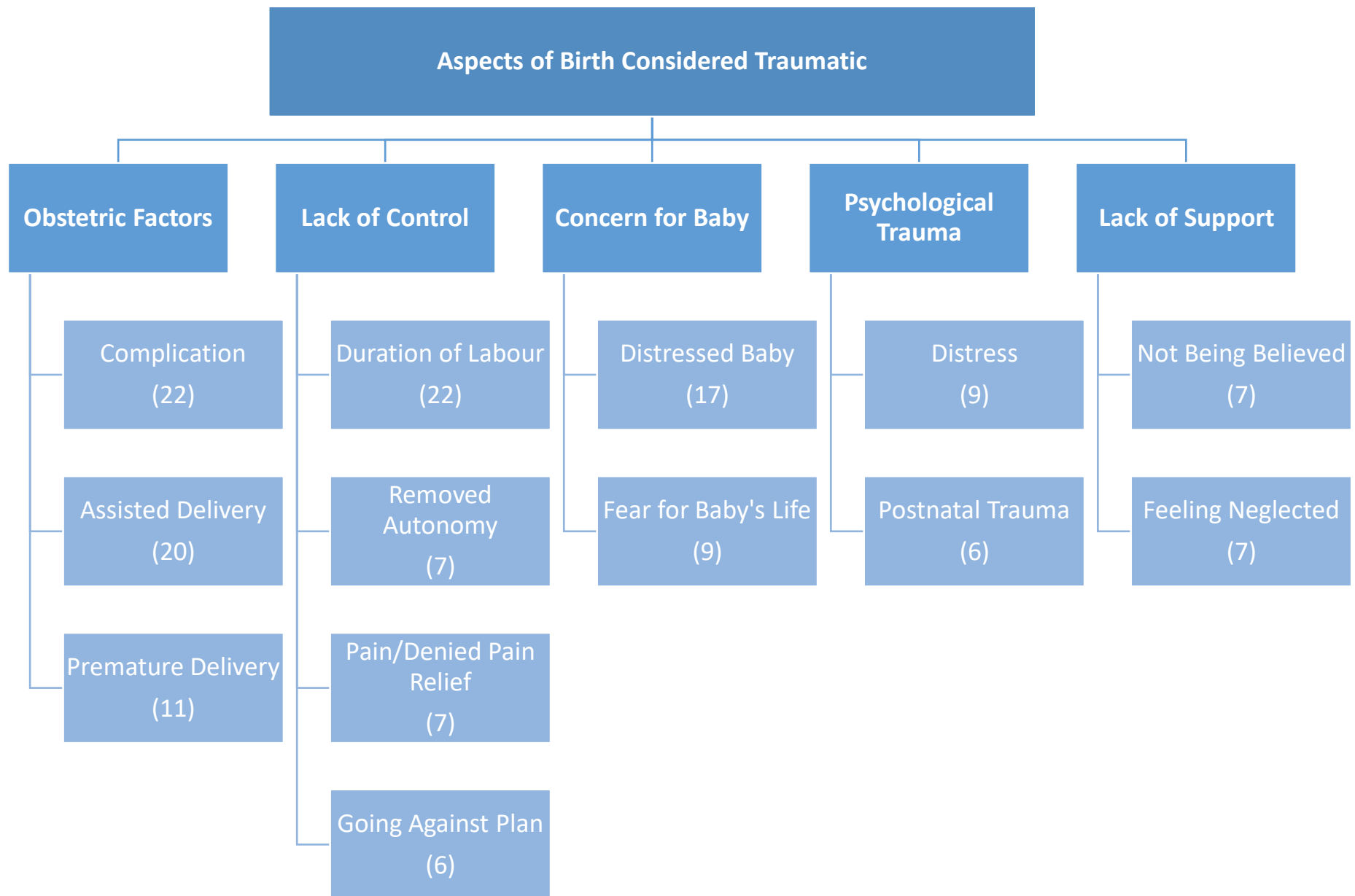


Figure 3. 3. Framework of themes derived from content analysis of free-text comments on aspects of birth considered traumatic.

Note: Numbers in parentheses represent the number of times a theme was identified.



#### 3.4.7.1. Theme one: Obstetric Factors

The first theme comprised comments of women's obstetric experience during birth. Obstetric complications such as haemorrhage, tearing or infection were commonly reported by women (n=22). Twenty participants reported an assisted delivery in their accounts of the most traumatic aspects of their birth and eleven women identified their baby being born prematurely as contributing to their accounts of a traumatic childbirth experience.

*"Baby wouldn't come despite forceps so had an emergency section which I wasn't expecting."*

[Participant 311. 'Assisted Delivery']

#### 3.4.7.2. Theme two: Lack of Control

The most common theme relating to the perception of the birth experience, unrelated to obstetric factors, surrounded the mothers perceived lack of control. Twenty-two of the responses contained a description of the duration of labour. This was in the context of either feeling too rushed (n=11) or that labour went on for too long (n=11). Women's accounts that identified experiencing a lack of control resulting from not having a choice about the events surrounding their birth were categorised as 'removed autonomy'. This was in the context of too many doctors in the birthing room, not having the freedom to give birth in a desired position or not being asked consent for internal examinations.

*"...People flooded the room while I was pushing and I didn't know why. Found out afterwards it was because baby's heart rate dropped."*

[Participant 178. 'Removed Autonomy'.]

*"It was an induction, and it happened very fast, and I felt like I had no control."*

[Participant 132. 'Duration of Labour'.]

Additionally within this theme were accounts from women who specifically reported that their birth experience did not adhere to their expectations or birth plan. These were categorised into a separate subtheme ‘Going Against Plan’.

*“... Did not have the opportunity to adhere to any of my birth plan. Did not feel in control of the situation. Vaginal examinations by registrars without consent.”*

[Participant 072. Coded as ‘Going Against Plan’ and ‘Removed Autonomy’.]

The final subtheme pertaining to a lack of control comprised descriptions of pain. This subtheme consisted of three accounts of experiencing overbearing pain and four accounts of being denied pain relief during labour.

*“...rushed across the hospital once my baby’s head was nearly out to the labour ward to have my baby. Was denied pain relief. Was overall a horrible experience.”*

[Participant 023. ‘Denied Pain Relief’]

#### *3.4.7.3. Theme three: Concern for Baby*

Seventeen mothers related their traumatic birth experience to factors surrounding the perceived health of their baby. These were predominantly concerning signs of physical distress of the baby, such as atypical heart rate or reduced movement. However, nine women reported fearing for their baby’s life without specific mention of any physical health concerns. These accounts were categorised separately into a subtheme ‘Fear for Baby’s Life’.

*“I didn’t know how my baby would deliver or if she would be alive.”*

[Participant 140. ‘Fear for Baby’s Life’]

#### *3.4.7.4. Theme four: Psychological Trauma*

The fourth theme comprised reports from women about psychological trauma experienced either during the birth ('Distress') or after the birth ('Postnatal Trauma'). Nine women explicitly reported feelings of distress associated with high stress or panic during labour and birth. Additionally, six women described persistent trauma symptoms resulting from their birth experience, one of whom referred to her partner experiencing postnatal trauma from the birth.

*"Yes I still find it traumatic and am very concerned about having another baby due to this."*

[Participant 086. 'Postnatal Trauma']

#### *3.4.7.5. Theme five: Lack of Support*

The final overarching theme relates to women feeling unsupported during birth. Women's perception of lack of support corresponded to either not being believed about the progress of their labour ( $n=7$ ) or feeling neglected and disregarded by healthcare professionals ( $n=7$ ). Within this 'feeling neglected' subtheme, five women reported a lack of information about what was happening to them during labour and two women discussed feeling abandoned during the birth.

*"...very rushed c section and not told about it till last minute."*

[Participants 089. 'Feeling Neglected']

*"Was supposed to be a home birth. Was at 10cm already by the time the midwives came because I didn't 'sound in labour'... Midwife told me to stop making noise and focus on pushing (already was!). Blue lighted to hospital, baby was back to back with shoulder dystocia."*

[Participant 107. 'Not Being Believed', 'Going Against Plan' and 'Complication']

### 3.5. Discussion

This study provides further evidence that childbirth can be a traumatic experience for many women. Almost one third of women in this sample (29%) reported their most recent birth to have been traumatic. This reflects estimated incidence rates presented in a review that approximated one-third of women to appraise their birth as traumatic (Ayers, 2004). Many of the women in this sample who appraised their birth as traumatic did not report experiencing complications during their labour or delivery. This further emphasises the significance of the subjective experience, rather than the obstetric experience in women's appraisal of childbirth. In addition to this, 7.7% of the women in this sample presented with trauma symptoms that met full DSM-IV criteria for PTSD. This is slightly higher than figures presented in a recent review that estimated rates of incidence of postnatal PTSD to be between 4.6-6.3% (Dekel et al., 2017) . Due to the retrospective nature of the study design, we cannot discount that some of these participants may present with ongoing PTS symptoms from a previous trauma unrelated to the birth. However, the use of a scale that makes specific reference to childbirth, rather than a general measure of trauma symptoms, should provide greater accuracy of prevalence rates for postnatal PTSD as a result of a traumatic childbirth experience (Ayers et al., 2018; Wijma et al., 1997).

With reference to the first objective of this study, lower perceived staff support and greater perceived fear presented as significant predictors of postnatal trauma symptoms over and above self-reported pain or level of obstetric intervention experienced during birth. These findings are in line with current birth trauma literature. A negative perception of the care received during birth has been attributed as a risk factor for postnatal PTSD in previous

longitudinal research (Czarnocka & Slade, 2000; Verreault et al., 2012) and meta-analyses (Andersen et al., 2012; Grekin & Hara, 2014). Qualitative research with women who present with postnatal PTS symptoms also report poor staff interactions as a common theme pertaining to a traumatic birth experience (Tham et al., 2010). Similarly, in alignment with the findings in the current study, greater fear for self and baby during birth has been recognised previously as a significant risk factor for postnatal trauma (Czarnocka & Slade, 2000). In the current study, fear not only presented as a significant predictor of trauma symptoms, but also emerged as an overarching theme for traumatic appraisals of birth. However, there are strong similarities between measures of perinatal fear and items that correspond to criterion A for PTSD, (e.g. *‘during labour/delivery I was afraid that I or my baby would be hurt or was going to die’*). Therefore, longitudinal research assessing fear in relation to trauma symptoms typically measure fear of childbirth antenatally (Wijma et al., 1998). Severe fear of childbirth during pregnancy is reported to be a direct predictor of postnatal trauma (Söderquist et al., 2009) as well as having an indirect effect on trauma via a negative subjective birth experience (Garthus-Niegel et al., 2013). The overall subjective birth experience has also been found to mediate a substantial portion of the effects of labour pain on posttraumatic stress symptoms (Garthus-Niegel et al., 2014). Keogh et al., (2002) found that pain experienced during birth was not predictive of postnatal trauma symptoms, but interestingly, control over pain relief was a significant predictor. This suggests that pain during childbirth may be relevant to postnatal psychopathology when combined with a sense of feeling out of control. This may explain why self-reported pain alone was not a significant independent predictor of trauma in the current study. The synchronicity between pain and control is also reflected in the qualitative data whereby pain, or a lack of pain relief, was reported with reference to lacking control over the birth.

Alongside self-reported level of pain during birth, the level of obstetric intervention experienced also did not present as a significant predictor of trauma symptoms once measures of the subjective birth experience were included into the model. This finding reflects previous research that presents the subjective birth experience as a stronger predictor of postnatal trauma compared to the obstetric experience (Ayers et al., 2016; Dekel et al., 2017). The novel finding from this research illustrates the relationship between these factors presenting one of full mediation. The mediation model suggests that a positive and supportive birth experience can negate the potentially negative traumatic effects from a birth requiring medical intervention, and therefore serves a protective function. The model emulates previous longitudinal research which also presents a 'buffering effect' of a supportive birth environment on postnatal trauma following birth that required medical intervention in women with history of prior trauma (Ford & Ayers, 2011). In the current study, the direct effect between obstetric intervention and trauma symptoms was reduced to non-significance when perceived support was inputted into the model. Therefore, this offers an alternative perspective that runs parallel to a previously documented model suggesting poor maternity care to have an additive effect on the relationship between obstetric intervention and postnatal trauma (Creedy et al., 2000). Collectively these findings emphasise the importance of a supportive birthing environment, which can have a protective impact during births that require medical intervention. This is reflected in general, non-childbirth specific, trauma research, which presents social support to have a buffering function that intervenes between a stressful event and a stress reaction by preventing a stress appraisal response (Cohen & Wills, 1985). This occurs when an individual perceives others with the ability to provide necessary resources to cope, or reinforce one's own self-efficacy to cope, with imposed demands of a stressful event. In relation to childbirth, this means that a supportive environment should enhance women's perception of their own ability as well as ensure a trusting relationship

where women can feel confident in maternity staff abilities and relinquishing control in the event of a birth requiring medical intervention (O'Hare & Fallon, 2011).

In the current study, level of obstetric intervention was independently associated with postnatal trauma symptoms, but not postnatal depression or anxiety symptoms. With reference to study objective two, aside from obstetric intervention, there did not appear to be differences in birth characteristics associated with postnatal trauma, depression or anxiety. All three measures of postnatal psychopathology were predicted by perceived level of support and fear during birth, but not self-reported pain. This is similar to previous research that found shared vulnerability factors to predict incidence of postnatal trauma and postnatal depression (Söderquist et al., 2009). However, in the current study there were differences in the extent to which perceived support and fear during birth predicted variance in these measures of postnatal psychopathology. The final model explained 36% of the variance in postnatal trauma symptoms, whereas the same model could only account for 16% variance in postnatal depression and 17% variance in anxiety. This suggests that greater importance appears to be afforded to the birth experience for postnatal trauma, but less so for postnatal anxiety or depression. These findings are consistent with a meta-analysis of risk factors for postnatal depression, which presented predisposing factors such as history of depression, depression during pregnancy and lower levels of social support as predictors of postnatal depression, over and above factors associated with the birth experience (Robertson et al., 2004). There is less research dedicated to postpartum anxiety, but one Israeli study documented fear for self and baby, perceived lack of control during birth and lower confidence in staff to be associated with postpartum anxiety (Polachek et al., 2014). Additionally, a large longitudinal study reported a negative perception of the birth to be associated with elevated anxiety, but not type of delivery or level of obstetric complications

(Bell et al., 2016). This may explain the absence of a significant correlation between obstetric intervention and anxiety in the current study. A recent review suggests that predisposing factors such as a history of anxiety and psychiatric problems are predictive of postpartum anxiety (Field, 2018). Contrastingly, a review of postnatal trauma documented negative experience of childbirth to be the most important predictor of PTS symptoms after birth (Dekel et al., 2017), which would explain a greater significance of subjective birth characteristics attributed for postnatal trauma.

In alignment with study objective three, the inclusion of free-text responses used in this study allowed further exploration into women's accounts of factors surrounding the birth that contributed to a traumatic experience. Over half of the women who reported to have experienced birth complications did not appraise their birth as traumatic, suggesting an objectively difficult birth alone does not guarantee a traumatic experience for the mother. The themes derived from women's appraisals of their traumatic birth experience supplement the quantitative questionnaire data presenting an interplay between mother's perception of her birth and the objective complications she experienced. A perceived lack of control was identified as a pertinent factor that often succeeded women's accounts of obstetric interventions, e.g.:

*“It was an induction, and it happened very fast, and I felt like I had no control.”*

This supports the assumption that obstetric interventions may contribute to the appraisal of childbirth as traumatic but subjective factors play a mediating role in the development of birth-related PTS symptoms (Olde, van der Hart, et al., 2006).



Yet, it is also important to note that a significant proportion of women's accounts did not contain a reference to an obstetric complication and instead focus on the perception of their birth experience/environment as being traumatic. The majority of these cases refer to incidents of fearing for the baby, feeling ignored by healthcare professionals or feeling out of control. These aspects reflect the interpersonal difficulties identified as 'hotspots' of traumatic birth experiences in previous qualitative research (Harris & Ayers, 2012). An interesting observation in the subthemes regarding a lack of control during birth is the dichotomy between women's sense of internal control over their own physical experience and external control over the birth environment. Subthemes relating to pain and duration of labour can be regarded as aspects of the birth whereby women experienced a lack of internal control over their own bodies. Whereas subthemes depicting denial of pain relief and removed autonomy resemble a lack of external control over the birth environment or actions of the maternity staff around them. The distinction between internal and external control has been discussed in the literature with reference to negative appraisals of childbirth. Green (1999) posited the theory that a woman's sense of internal control over her own behaviour and coping mechanisms has greater influence over her appraisal of birth compared to aspects of external control such as decision-making. However, external control is important during childbirth with regard to feeling in control over what maternity staff are doing (Green, 1999), suggesting a crossover between external control and support (Ford and Ayers, 2010). This is reflective in the qualitative data from the current study of women's accounts of traumatic childbirth with reference to poor perceived support. These accounts correspond to either feeling neglected by staff or not feeling listened to during labour. Both subthemes present a birthing environment that would impede a woman's sense of control over her birth. This emphasises the importance of a supportive environment that encourages a sense of autonomy during childbirth to ameliorate fear and buffer against postnatal trauma symptoms.

### 3.5.1. Strengths and Limitations

This survey was completed online by a large cohort of women who had given birth within the last year. The use of online research allows access to a larger and broader sample of women, yet it also succumbs to methodological flaws associated with internet studies. One previous study found that women recruited online are more likely to report greater PTSD symptoms compared to community samples of women recruited from hospitals or antenatal clinics (Ayers et al., 2015). Additionally, as this study was retrospective, it cannot rule out the possibility of women presenting PTSD symptoms from previous trauma unrelated to the birth experience. The retrospective nature of the study also relies on women's recall of their birth experience from up to twelve months previously. Although research suggests that women's memories of birth is relatively stable and accurate even years after the experience (Tomeo et al., 1999), future research would benefit from a longitudinal design to assess PTS symptoms antenatally and childbirth-specific PTS symptoms during the postnatal period. This should improve validity of birth characteristics but also generate a more accurate prevalence rate for postnatal PTSD as a result of traumatic childbirth specifically.

The current study utilises the TES-B to measure postnatal trauma symptoms (Wijma et al., 1997). The benefit of using the TES-B is that it measures trauma symptoms with specific reference to childbirth as the stressor and cause of subsequent trauma symptoms. This should improve accuracy of incidence rates for postnatal PTS symptoms resulting from traumatic childbirth specifically. However, the TES-B measures trauma symptoms in line with DSM-IV criteria for PTSD, as opposed to the revised DSM-5 criteria (APA, 2013). As discussed in Chapter One of this thesis, there are differences in symptom classification between DSM-IV and DSM-5 criteria of PTSD. The biggest difference between the two is the separation of four

symptom clusters in the DSM-5 in comparison to the three original symptom clusters in the DSM-IV (see Figure 1.1. in section 1.2. of this thesis). The DSM-5 separates ‘avoidance and numbing’ into different clusters. Avoidance symptoms make up their own symptom cluster (criterion C) and the numbing symptoms are now included with cognitive and mood symptoms (criterion D). This reorganisation means that at least one avoidance symptom is now required for an individual to meet diagnostic criteria, whereas previously, the DSM-IV criteria permitted diagnosis even if no avoidance symptoms were endorsed. The difference in classification criteria may influence the prevalence rate of postnatal PTSD in accordance with DSM-5 criteria. However, as the scope of this study concerns identification of perinatal factors associated with postnatal trauma symptom presentation, rather than clinically significant trauma, this methodological critique does not cause issue when addressing the primary research question. Since completion of this study, City University have published a new scale to measure childbirth-specific trauma symptoms according to DSM-5 criteria of PTSD, ‘City Birth Trauma Scale’ (City BiTS), (Ayers et al., 2018). This provides a useful alternative measure of trauma symptoms for future birth trauma research in line with current diagnostic criteria for PTSD. The following quantitative research study presented in Chapter Five utilises this new measure of postnatal PTSD in alignment with DSM-5 criteria.

The measure for the subjective experience of birth incorporated in the current study is comprised of three subscales to measure perceived fear, pain and staff support. Using this scale allows exploration of three separate constructs of the subjective experience of childbirth to measure their contribution to predict trauma symptoms individually. However, the subscale for perceived support contains items that could be interpreted as a measure for control. For example: ‘*How much did you feel in control of what was happening during your labour and delivery?*’ and ‘*How much did you feel that your wishes and views were listened*

*to by staff during your labour and delivery?'* The thematic framework for the qualitative accounts of women's traumatic birth experiences presents the perception of not having control as a pertinent factor for appraising birth as traumatic. Content analysis also revealed a distinction between perceived internal and external control. Therefore, in future studies it may be useful to incorporate measures of control as part of assessing the subjective experience of birth, as well as a measure of perceived support. The Support and Control in Birth (SCIB) scale could be a useful alternative to measure subjective experience of birth as it is comprised of three subscales to measure perceived staff support, internal control and external control during birth (Ford et al., 2009).

### **3.5.2. Conclusions**

The findings from this study reinforce the value of supportive healthcare professionals and the power of a nurturing environment, which can buffer the potentially negative effects of an obstetrically complicated birth on postnatal trauma symptoms. The thematic framework emphasises the diversity of experiences that can be perceived as being traumatic during birth, many of which do not rely on objective complications. These findings, alongside previous research in this field, continue to demonstrate the significance of a positive subjective birth experience and the detrimental long-term consequences of a birth whereby the mother feels unsupported and without control over her labour and delivery. This appears to be particularly important for postnatal trauma compared to postnatal depression and anxiety.

## CHAPTER FOUR

### CONTRIBUTING FACTORS FOR THE APPRAISAL OF TRAUMATIC AND NON-TRAUMATIC CHILDBIRTH

*“I feel really happy. I still look back on it and think that was a good experience. I feel happy about the process and quite proud.”*

*Study Participant*

*“I don’t look back and think it’s the best day ever at all. I think having my child’s the best thing that happened to me, but that day was definitely not the best day I ever had. And I think, sometimes I feel a bit robbed of that. I should be able to look back at it fondly, and I don’t.”*

*Study Participant*

## **4.1. Preface**

Following the retrospective survey study outlined in Chapter Three, it was clear that subjective experience of birth is a fundamental component of women's experience of birth trauma. The use of free-text responses in Study I provided insight into characteristics of the birth experience that may have contributed to a traumatic appraisal of childbirth. However, I wanted to develop a deeper understanding of women's birth experiences using experiential qualitative interviews with a personal perspective to supplement the quantitative and free-text data. In particular, I wanted to discover potential differences in the subjective birth experience between women who appraised their birth as traumatic and those who did not appraise birth as traumatic. This chapter outlines the first qualitative birth trauma study that I conducted in my PhD. I developed a semi-structured interview template combining subjective factors associated with a traumatic birth experience outlined in Study I, and conducted interviews with women who appraised their birth as traumatic and with women who did not. The qualitative design used in this study provided an in-depth understanding of women's experiences to gain further insight into factors that may contribute to women's appraisal of their birth as traumatic or non-traumatic. The findings are presented in a novel framework that compares salient aspects of women's traumatic and non-traumatic birth experiences.

## **4.2. Introduction to Study II**

Approximately one third of women appraise their birth as traumatic (Ayers, 2004). One's appraisal of birth has been suggested to be one of the most influential reasons for developing symptoms of trauma and postnatal PTSD (Beck, 2004). However, it is important to note that a woman can appraise her childbirth experience as traumatic and not display symptoms of

trauma, and equally, a woman may not appraise her birth as traumatic but present with PTSD symptoms (Ayers, 2004). With this in mind, it is important that research is inclusive of women who reflect on their birth as being a traumatic experience but may not be traumatised from it. Women who experience a traumatic birth often report that they have not had the opportunity to voice their distress through fear that their concerns would be dismissed (Moyzakis, 2004). Focusing on women's appraisal of their birth experience, as opposed to trauma symptoms postpartum, can provide further insight into characteristics of the birth experience that may cause women to reflect on childbirth as a traumatic event. This is important as we know from the wider non-childbirth trauma literature that a negative appraisal of a trauma event can evoke a current sense of threat and motivate avoidance behaviours that can perpetuate PTS symptoms (Ehlers & Clark, 2000).

Within the childbirth literature, there is no consistent definition of traumatic birth, thus studies typically explore birth trauma as defined by the women themselves (Elmir et al., 2010). This can either be in the context of using the event criterion A for trauma from the definition of PTSD in the DSM-V, which defines a traumatic event as one where 'the person was exposed to: death, threatened death, actual or threatened serious injury or actual or threatened sexual violence' (APA, 2013). Alternatively, studies can measure the appraisal of birth as traumatic when women consciously label their experience of birth as 'traumatic', although they may not have any psychopathology associated with it (Ayers, 2004; Beck, 2004). With this in mind, women who do not appraise their birth as traumatic would not necessarily deem their birth to have been a positive experience. Indeed, Bramadat and Driedger (1993) make the important distinction that birth satisfaction is more than just having a positive experience, but also having a positive evaluation of the birth. This is further highlighted in quantitative research that exemplifies the significance of women's subjective

experience of childbirth in predicting postnatal trauma, which is often weighted more heavily than the obstetric experience (Czarnocka & Slade, 2000; Dekel et al., 2017; Söderquist et al., 2006). The importance of the subjective experience of childbirth is also highlighted in a seminal qualitative study, which proposed the concept of birth trauma being ‘in the eye of the beholder’ (Beck, 2004). Beck (2004) emphasised the significance of women’s perception of their traumatic birth experience that may be viewed as routine practice by healthcare practitioners.

Qualitative research into birth trauma provides a clearer understanding of the factors women associate as contributing to their traumatic birth experience. A meta-ethnography of ten qualitative studies, for which women were interviewed about their traumatic childbirth, identified themes concerning communication, control, being seen, treated humanely and taken seriously as pertinent in women’s traumatic childbirth experiences (Elmir et al., 2010). This review demonstrates the relevance of interpersonal factors in birth trauma. Indeed, many women believe that their trauma could have been reduced or prevented by better communication and support by healthcare providers, or if they themselves had asked for or refused interventions (Hollander et al., 2017). Yet, despite the increasing research into traumatic birth and postnatal PTSD, there are significant gaps in perinatal support services, predominantly in helping and addressing women’s mental health needs after birth (Care Quality Commission, 2020; Thomson & Downe, 2008). In order for maternity care to provide appropriate and effective support for women through birth and the postpartum period, it is important for qualitative research to document the lived experiences of women’s traumatic and non-traumatic births.



Qualitative research surrounding birth trauma typically focuses on women who develop postnatal PTSD or experience postnatal difficulties (Beck, 2004; Coates et al., 2014; Peeler et al., 2018) or present findings only from women who experienced traumatic childbirth (Beck, 2006; Harris & Ayers, 2012; Hollander et al., 2017). Alternatively, some interview studies focus on a specific birth experience or procedure (e.g. Caesarean section or operative birth) (Blüml et al., 2012; Murphy et al., 2003; Williams et al., 2005). Fewer birth trauma studies have documented the experiences of women who have a traumatic and a non-traumatic childbirth comparatively. From reviewing the literature, it appears only two studies have been published that compare the birth experiences of women who experienced a traumatic or non-traumatic birth. One of these was a quantitative study that measured differences in memories of birth between women who identified their birth as traumatic and women who did not experience a traumatic birth (Crawley et al., 2018). Crawley et al., (2018) found that women who did appraise their birth as traumatic experienced more negative and intrusive memories of their births. This finding fits with the cognitive model of PTSD, which assumes a negative appraisal of a trauma event can evoke trauma-related intrusions (Ehlers & Clark, 2000). The only qualitative study to compare women's traumatic and non-traumatic birth experiences is from Ayers (2007). In this study, women with and without postnatal PTSD were interviewed regarding their thoughts and emotions of their births. The study found that women with clinical PTSD reported experiencing panic, dissociation and mental defeat during birth, which was not present in accounts from women who did not present with postnatal PTSD. These findings suggest qualitatively different thoughts and emotions during birth for women with and without postnatal PTSD, yet as the author notes, the nature of this study cannot discount the possibility that women's symptoms of PTSD may lead to interpretation of birth events in a way that accentuates negative thoughts and feelings (Ayers, 2007). A gap in the literature remains regarding a qualitative comparison of women's traumatic and non-

traumatic birth experiences to identify factors that may contribute to a traumatic appraisal of childbirth, irrespective of postnatal PTSD presentation.

The current study was designed to examine the subjective characteristics of birth in a non-clinical sample of women who experienced birth as traumatic or non-traumatic. A qualitative design was incorporated to better understand a diverse range of women's birth experiences.

The objectives of this study are:

- 1) To explore the relevant perinatal factors that may contribute to women's appraisal of their childbirth experience.
- 2) To explore differences in the subjective experience of childbirth between women who appraise their birth as traumatic and those who appraise birth as non-traumatic.

## **4.3. Method**

### **4.3.1. Design**

This study was a qualitative interview of the factors that contribute to women's appraisals of traumatic and non-traumatic birth experiences. A semi-structured interview template was designed to explore these experiences and thematic analysis was conducted to generate a framework of factors associated with women's appraisals. The primary aim of the interview was to explore factors associated with the birth experience that may contribute to a traumatic or non-traumatic appraisal of childbirth. Therefore, the interview template was designed to allow women to recount their experiences during labour and birth, after which they were asked about their response to birth, support, control and postnatal experience. The inclusion of women's perceived support and control during birth coincides with the findings from Study I (*Chapter Three*), whereby content analysis revealed a lack of control as a prominent subjective birth characteristic identified in women's accounts of traumatic birth, and quantitative measures of perceived staff support as a predictor of birth trauma symptoms. Interviews were conducted over the phone as participants were from different parts of the UK and interviews were conducted both before and during the COVID-19 outbreak. For convenience of women's schedules with their infants, participants were given the option to pre-record their answers to the interview questions in a 'video-diary' format as an alternative to a telephone interview with a researcher.

### **4.3.2. Participants and Recruitment**

In this qualitative study, a subsample of fourteen women were interviewed who were participating in a separate longitudinal questionnaire study (*Study III*). As part of the

registration for Study III, women were asked whether they would like to participate in telephone interviews in addition to participating in the longitudinal study (*See Chapter 5*). Out of the 226 participants who met all inclusion criteria and completed all aspects of the longitudinal survey,  $n=37$  opted to take part in both interviews and surveys. From these thirty-seven women, ten appraised their most recent birth as traumatic in a questionnaire completed at three-months postpartum. All ten of these women were contacted and asked if they would participate in a telephone interview or record their answers to interview questions in a video diary format. Five of the women consented to take part in telephone interviews, two women recorded and shared video recordings of their answers to all interview questions and three women declined to participate. Therefore, the traumatic birth appraisal group consisted of seven women. The non-traumatic birth appraisal group comprised six women who participated in telephone interviews and one woman who provided a video recording. The final sample size consisted of  $n=14$  women, half of whom appraised their birth as traumatic.

*Table 4.1.* presents demographic information and birth characteristics for all participants in the current study. This information was retrieved from the corresponding longitudinal survey study (*Study III*). All demographic information was completed during the third trimester of pregnancy, the birth characteristics were reported at three-weeks postpartum and the trauma symptom score and traumatic/non-traumatic appraisal of childbirth were completed at three-months postpartum. A detailed description of participant recruitment and survey design for *Study III* is provided in Chapter Five of this thesis. Women completed this interview study between 3-5 months postpartum ( $mean = 3.7 months$ ).

*Table 4. 1. Sample characteristics from demographic information, mode of delivery & trauma appraisal/symptom scores at three-months postpartum (N=14)*

<b>Participant ID</b>	<b>Age (years)</b>	<b>Ethnicity</b>	<b>Relationship status</b>	<b>Parity</b>	<b>Delivery mode</b>	<b>Trauma symptom score /60 (City BiTS)</b>	<b>Appraisal of birth</b>
167	30-35	Mixed race	Married/Cohabiting	Primiparous	Emergency C-Section	7	Traumatic
228	36-41	White	Married/Cohabiting	Primiparous	Planned C-section	3	Traumatic
272	24-29	White	Not living with partner	Multiparous	NVD	32	Traumatic
345	36-41	White	Married/Cohabiting	Multiparous	Planned C-section	30	Traumatic
460	36-41	White	Married/Cohabiting	Multiparous	Emergency C-section	30	Traumatic
560	36-41	White	Married/Cohabiting	Multiparous	Planned C-section	1	Traumatic
658	24-29	White	Married/Cohabiting	Primiparous	Forceps Delivery	20	Traumatic
070	30-35	White	Married/Cohabiting	Multiparous	NVD	14	Non-traumatic
096	30-35	White	Married/Cohabiting	Primiparous	Forceps Delivery	2	Non-traumatic
129	30-35	White	Married/Cohabiting	Primiparous	Emergency C-Section	6	Non-traumatic
133	30-35	White	Married/Cohabiting	Primiparous	NVD	6	Non-traumatic
150	24-29	White	Married/Cohabiting	Multiparous	NVD	0	Non-traumatic
151	36-41	White	Married/Cohabiting	Primiparous	NSVD	3	Non-traumatic
515	30-35	Other ethnicity	Married/Cohabiting	Primiparous	NSVD	8	Non-traumatic

*Note. Mode of delivery: NSVD = Normal Spontaneous Vaginal Delivery (relating to a birth without the aid of any labour inducing methods or assisted delivery); NVD = Normal Vaginal Delivery (relating to a birth that required labour induction method but without assisted delivery).*

### 4.3.3. The Interview

The semi-structured interview template was developed based on previous work by Ayers (2007) and the qualitative framework derived from the findings of Study I. The primary aim of the interview was to explore factors associated with the birth experience that may contribute to a traumatic or non-traumatic appraisal of childbirth. In addition to this, the interview allowed insight into how women are coping in the postpartum period and changes they would like to see based on their own reflections of their birth experience. As such, the interview questions were not framed in a way that was indicative of traumatic or non-traumatic birth and instead were phrased neutrally, (see *Appendix 1* for the full interview schedule). At the beginning of the interview, women were asked to recount their experiences during labour and birth, after which they were invited to describe the most difficult aspect of their birth. Participants were then asked about their response to birth in terms of the perceived control they had over it and the perceived support available to them. Following this, women were asked how they were feeling now and if there was anything they felt could improve maternity care practice and women's birth experiences. All interviews were digitally recorded.

The interview template was used as a guide that was flexible in allowing dialogue during the interview with the opportunity to change the order of questions (Kallio et al., 2016).

Interviewers were encouraged to gather as much data as possible by allowing participants to speak freely, but balance this by ensuring that the topics covered were relevant to the overall research questions. For the three women who provided video recordings of their birth experiences, the interview schedule was emailed to participants with instructions on how to record and upload video recordings. The length of telephone interviews ranged from 15-60

minutes (*mean: 30minutes 02seconds*) and the three video recordings were markedly shorter, ranging from 11-18 minutes (*mean=13minutes 22seconds*).

#### **4.3.4. The Interviewers**

Interviews were conducted by the researcher and by a female Psychology Masters student who participated in the project as part of her dissertation. Across a series of weekly sessions, the student was trained in interviewing skills, practiced interview techniques with the interview template and observed three interviews conducted by the researcher before conducting participant interviews herself. The student conducted three interviews whilst observed by the researcher and conducted the remaining telephone-interviews independently. All digital recordings were reviewed afterwards to check for research integrity.

#### **4.3.5. Procedure**

This study was granted ethical approval by the University of Plymouth faculty of Health and Human Sciences ethics department, (*reference: 18/19-1038*). Participants who had indicated interest in participating in interviews from *Study III* were contacted via email and asked to participate in telephone interviews or record their answers to questions about their birth in a video diary format. All participants were contacted after completion of the third and final survey from *Study III* at three-months postpartum. Participants who agreed to take part in this study were emailed a link to a study brief and consent page hosted on Qualtrics online survey software. Participants who had agreed to participate in telephone interviews were instructed to select dates and times that would suit them, and the interviewers scheduled telephone interviews according to participants' preferences. Participants who opted to record their answers to interview questions independently were emailed the interview template (*Appendix*

2) with instructions on how to record and upload video files. At the beginning of the interviews, participants were asked if they were happy for interviews to be recorded and reminded of their confidentiality and anonymity. All interviews were recorded using a portable digital recorder and all interview recordings and video files were transcribed verbatim (see *Appendix 3* for a sample transcript). Following interview, participants were emailed a debrief with contact details for national postnatal mental health charities and resources. Interviews were conducted over a three-month period between February 3<sup>rd</sup> 2020 to April 29<sup>th</sup> 2020.

#### **4.3.6. Data Analysis**

Interviews were analysed using thematic analysis following the six-step approach outlined by Braun and Clarke (2006) to address the primary research question - what aspects of women's birth experience contributes to a traumatic or non-traumatic appraisal of childbirth? Since the aim of this study was to examine how women's birth experiences differ between women who appraise their birth as traumatic and non-traumatic, themes were first extracted from all participants' interviews and then differences between the two groups were noted.

This immersive analysis firstly required familiarisation with the data. Following transcription, the researcher ensured familiarity with the data by checking all transcripts against the original recordings for accuracy, and reading each transcript several times whilst making initial notes of points of interest. Using a theoretical approach, initial codes were generated based on salient features of theoretical interest. Extracts from individual transcripts that correspond to a specific code were then collated. At this stage, the validity, prevalence and importance of initial codes were verified as they were collected into preliminary themes. Preliminary themes were then reviewed and scrutinised for internal homogeneity and external



heterogeneity as outlined by Patton (2003). This ensured that codes appropriately and meaningfully cohered within their respective theme and each theme was conceptually different. In accordance with this, themes with few or incoherent corresponding codes that did not span multiple participants were discarded from analysis. Themes that comprised coherent patterns of codes and corresponding data extracts were retained. This process of refinement was conducted by both the researcher and the researcher's supervisor independently before discussing together. Following this analysis, a thematic map was generated (*Figure 4.1.*) comprising all categories, major themes and corresponding subthemes. At this stage, combining two subthemes relating to 'limited antenatal information' and 'limited postnatal support' was considered. After discussion, it was decided that the overlap between antenatal and postnatal factors (e.g. limited information on breastfeeding) were better presented as a singular subtheme under the major theme of feeling 'In the dark'. Finally, transcripts were read again, and themes were revised to identify their individual narrative and how each theme fits in the overall story of the data in relation to the research question.

## 4.4. Results

Thematic analysis of interview transcripts was conducted for factors that contributed to women's appraisals of their birth as either traumatic or not traumatic. Analysis revealed six main themes that fit within two overarching categories pertaining to whether the mother felt 'empowered' or 'powerless' during birth. *Table 4.2.* presents the main themes and subthemes identified. *Figure 4.1.* presents the main themes and subthemes separated by category to demonstrate the contrasting themes identified between groups. Themes are discussed with quotes from participants who were assigned participant numbers with (T) succeeding participants who identified their birth as traumatic and (NT) succeeding participants who did not identify their birth as traumatic (e.g. 'P167 (T)'; 'P096 (NT)').

*Table 4. 2. Themes from interviews and whether they were present in all women, predominantly women who appraised birth as traumatic or predominantly women who appraised birth as non-traumatic*

<i>Themes</i>	<i>Subthemes</i>	<i>All women</i>	<i>Women who appraised birth as traumatic</i>	<i>Women who appraised birth as non-traumatic</i>
<b>Empowered</b>				
Trust	Personalised care			x
	Listened to and respected			x
	Partner support	x		
Control	Vocalised needs/wishes			x
	Working with the body			x
	Active role in decisions made			x
Informed	Knowledge is power			x
	End justifies the means			x
<b>Powerless</b>				
Distrust	Impersonalised care		x	
	Ignored		x	
	Let down		x	
Lacked control	No choice		x	
	Disconnected		x	
	Undignified		x	
	Fearful		x	
In the dark	Poor communication		x	
	Limited antenatal/postnatal information	x		

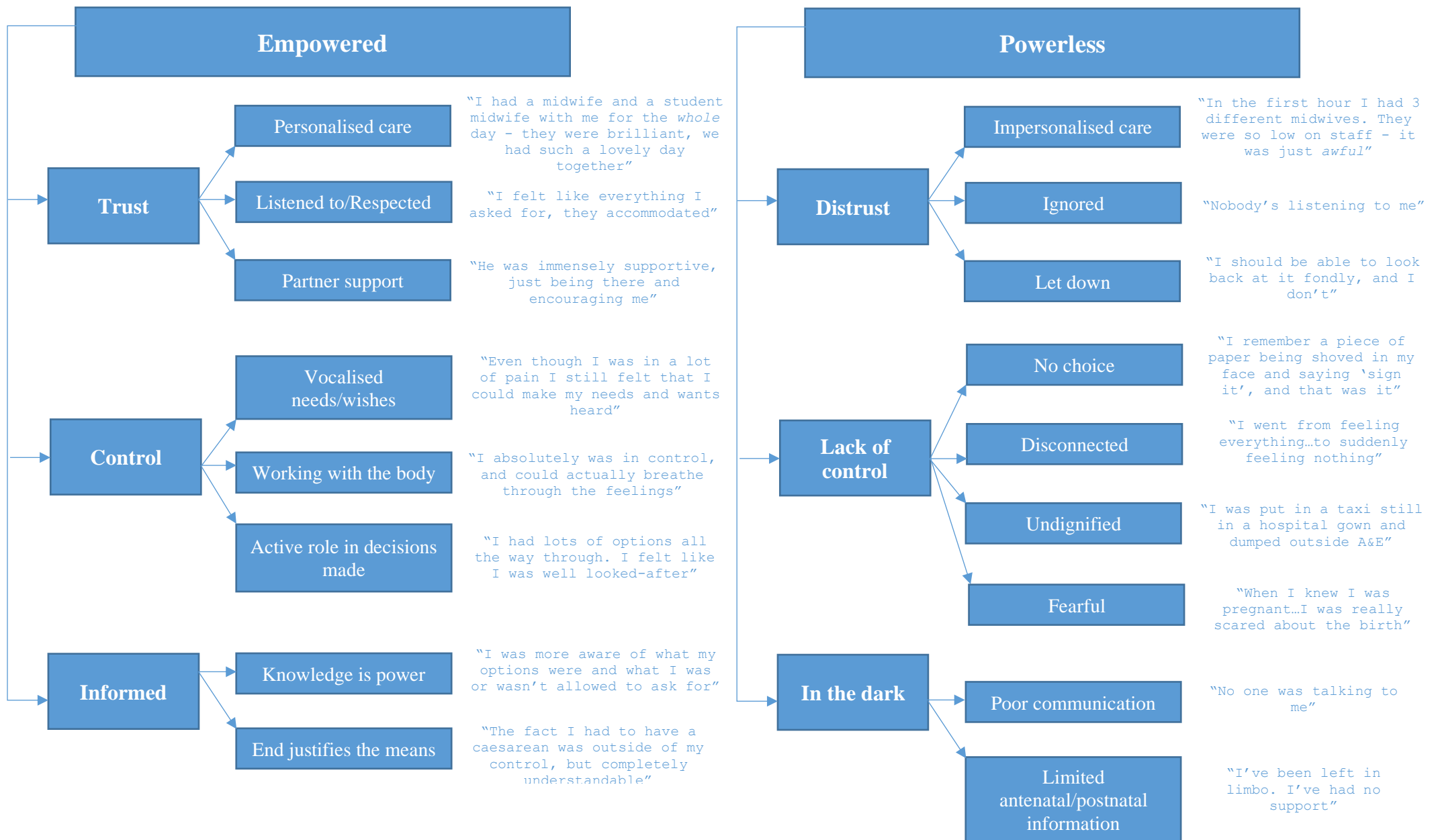


Figure 4. 1. Thematic map of overarching categories, themes and subthemes for traumatic and non-traumatic birth experiences

#### 4.4.1. Category 1: Empowered

Themes within this overarching category reflect participants' perception of feeling empowered during labour and birth. The themes within this category emerged predominantly from interviews with women who appraised their birth as non-traumatic. However, a subtheme pertaining to partner support was identified in interviews with all women, regardless of birth appraisal.

##### *4.4.1.1. Theme 1: Trust: 'I was quite happy to put it in their hands'*

Theme one comprises participants' expressions of trust in the care and support they received from healthcare professionals and from their partners during their labour and birth.

##### Personalised care

Participants described the care they received from healthcare professionals as attentive, intuitive and consistent, reflecting a relationship of trust between the mother and the people around her.

P096 (NT): I felt like I was, um, in good hands with them, like, the midwife really understood, you know, I could tell that she was really like understanding, and she was feeling, sort of empathy for me. Um, and was really encouraging when, I had to - you know, when I was having a contraction and I had to fight the epidural, she was helping me through the breathing, so they were fantastic.

P515 (NT): She [midwife] said the right thing kind of, she just felt like, she just seemed to like, read me really well, and she was encouraging when, I think, I needed her to be and stepped back when I wanted her to as well.

##### Listened to and respected

Participants discussed feeling listened to and that their wishes for their births were respected by healthcare professionals. Women also expressed feeling respected by healthcare professionals through being involved in discussions and being treated with dignity in cases where obstetric interventions were required.

P150 (NT): From the minute I went into the hospital, I felt, I felt like I had options all the way through, and I felt like everything I asked for, they accommodated. I didn't ask for very much, admittedly, but, whatever I did ask for, they did, manage, to meet my needs. And I thought they were really respectful with it.

P129 (NT): I said I didn't want—I wanted a gentle caesarean because I didn't want my abdominal muscles ripped, they respected that as well, so, yeah, I had a lot of support, the midwives were great, so all in all, yeah, it was a good experience.

### Partner support

Regardless of appraisal of birth as either traumatic or non-traumatic, women discussed the value of the support they received from their partners. Women who appraised their birth as not traumatic described their partners providing intuitive support and discussing the birth as a family event with fathers also attending antenatal classes and practicing relaxation techniques together.

P151 (NT): It was great because my partner, [partner's name] had obviously seen and we discussed all the same things, so he knew, to keep calm, and to help support me staying calm.

P515 (NT): He[partner] was very much on the side-lines, but he, I knew he was there supporting me, and he - he just occasionally supported my back up, my head or my arms, when I was in a lot of pain and I knew he was there, so he did, he did amazingly well, really. Again, he read what I needed and - and did the right thing.

For the women who experienced a traumatic birth, discussions surrounding their partners often consisted of feeling concerned for their partner during a chaotic birth environment, or describing their partner as someone who had to defend and fight for them when the mother felt defeated.

P167 (T): My partner um, went into complete shock um, cos all the lights were on, there was loads of people, and even though we talked about it in anti-natal class I don't think it prepared him for that. Um, I spent my whole time stroking his beard making sure he was alright.

P272 (T): If I was in on my own and not with my partner, I would have been overlooked, constantly. But, he is - argumentative and hot-headed. In his words he's a bit of an arsehole [laughter]... but he gets things done, he fights - he fought for me.

#### *4.4.1.2. Theme 2: Control: 'That was really empowering, to know that, yes – it was me in control.'*

Theme two consists of participants' perception of control over either the birth environment, the decisions made during labour, delivery or immediately postpartum or confidence in their own bodies to deliver their baby safely. Control also stemmed from knowing what they wanted and feeling confident in communicating their needs.

#### Vocalised needs/wishes

Women who appraised their birth as non-traumatic presented with a confidence that they could express their needs and wishes and that they would be heard.

P133 (NT): [speaking to consultant] I said, 'I really, really want a water birth', I said, 'and I know when I get an induction I can't have one'. I said, 'I've not had a sweep yet', I said, 'is that a possibility?'

In cases where participants' birth experiences deviated from their initial wishes for their birth, participants' priorities shifted to aspects of the birth that they could still achieve, for example skin-to-skin contact or initiating breastfeeding, thus retaining an element of control over their birth and still having their needs met.

P129 (NT): I said I wanted skin-to-skin straight away after she came out of the caesarean, so as soon as they cleaned her up and they got all the meconium off, she was put straight onto me, which was nice.

### Working with the body

Participants discussed a sense of internal control during birth whereby they felt connected with their bodies and behaved instinctively to accommodate what their body needed (e.g. specific positions during labour and birth). Women also discussed the ability to maintain a relaxed frame of mind during labour and birth. Many women described having practiced relaxation techniques antenatally to facilitate this.

P070 (NT): I felt I had lots of control for the simple reason when my waters were broken I got out of the induction room, I got out of the labour ward and I went onto a normal corridor and walked and walked and walked.

P151 (NT): It was quite nice because I was able to stay calm throughout it, because I'd been in such a calm, controlled place mentally for the previous hours. Um, so I think my partner found that quite, uh, interesting [laughter], that it had gone crazy in the room but I was still maintaining a sense of calm.

### Active role in decisions made

Participants who appraised their birth as non-traumatic discussed feeling included in the decisions made around their birth that contributed to feeling empowered during labour and delivery. This coincided with women's perception of advice from healthcare professionals as guidance rather than instruction.

P151 (NT): They were wanting to induce me, um, but he was still growing but had just slowed, so me and my partner...discussed it, and didn't go for that, um so we then, luckily, went into spontaneous labour and then we were able to go to midwife-led care.

P129 (NT): They started talking about induction, but they were batting around obviously caesarean, and I said: 'look, if I'm having a caesarean at some point, I'm not being induced, so you know, take that off the table', because there's no point in putting myself through that if I'm having a caesarean.

#### *4.4.1.3. Theme 3: Informed: 'Doing lots of reading about the science of labour and birth, that definitely gave me a sense of empowerment'*

The third theme relates to how informed women felt before and during their birth. This theme comprises women's perception of feeling prepared due to the information they received antenatally and during birth. Women reflected feeling empowered when learning about the science of childbirth and labour and the importance of being aware of birth routes and options available to them. This ultimately contributed to a justification of what actually happened during their birth.

##### Knowledge is power

Participants emphasised the importance of being aware of the options they had available to them before the birth and consideration of alternative birth routes. This engendered a sense of preparedness and empowered women with the choice over certain aspects of their birth.

P150 (NT): I was more aware of what my options were and what I was or wasn't allowed to ask for. So I felt quite well educated about, what, you know, what options would be available to me at any stage... The hospital is there really, to help me, not the other way around, that's how I felt going in, you know, they're there to help me, not - not for them to say what I do and don't do.



Participants also discussed the value of good communication with healthcare professionals during the birth so that they felt aware of what was happening throughout more challenging moments of labour and delivery and given options of interventions or pain relief.

P151 (NT): After he was born, I'd requested a natural delivery of the placenta, um, but, it was taking too long, and I think because of the shoulder dystocia with him, um, they wanted to sort of hurry it up. So they said 'would it be okay, you know, I realise that you said this in your plan, would you be open to having the injection to speed it up?' And, so, it was really nice that it was always a: 'we recognise that this was not in your plan, this is an option to you, would you like to go with it?'... so I was happy to do that, but it was, it was really nicely put.

### End justifies the means

Participants who discussed feeling informed often held an optimistic perception over their birth experience with an 'end justified the means' philosophy. Many of the women who appraised their birth as non-traumatic outlined possible alternatives that would have been less desirable, and discussed their actual birth experience as necessary for their situation.

P129 (NT): It wasn't ideal, but, the baby's more important, I didn't want anything to happen to her, especially as they started saying that she wasn't moving in the way that they wanted her to. So as soon as I heard that, I was pretty much just you know, get her out the quickest and safest way possible.

P096 (NT): Had I had an emergency c-section, um, having had the labour I had, which I – you know, was exhausting and very, very painful, and long, um, I think I would have been very disappointed. Because in a way – if I was going to have a c-section, I could've just had one from the outset. So, the fact that it *didn't* have to go there, and that it was forceps and he came out fine and he wasn't, um, his head wasn't too damaged by the forceps either. Actually, you know, he came out safely, and that's all I wanted, so yeah I was fine about it.

#### **4.4.2. Category 2: Powerless**

Themes within this overarching category reflect participants' perception of feeling powerless during labour, birth or immediately postpartum. The themes within this category emerged predominantly from interviews with women who appraised their birth as traumatic. However, a subtheme pertaining to limited antenatal and postnatal information was identified in interviews with all women, regardless of birth appraisal.

##### *4.4.2.1. Theme 4: Distrust: 'Nobody even knows my name'*

Theme four consists of discussions surrounding participants' distrust towards healthcare services. Distrust arose from inconsistent or unsympathetic staff creating a perception of anonymity and insignificance in women during birth. Distrust also emerged in discussions of feeling disappointed and as though women had fallen through the gaps of a disjointed healthcare service.

##### Impersonalised care

Participants who appraised their birth as traumatic described the care they received from healthcare professionals as inconsistent and not catered towards them as an individual. Some women discussed impersonalised care in the context of a lack of staff or inconsistency in staff, preventing the development of trust and familiarity before, during and after the birth.

Women described feeling anonymous due to the impersonalised care they received.

Participants reflected feeling as though the healthcare providers had predetermined the plan for their birth, as though they were on a conveyor belt, and that their personal circumstance or wishes would not be taken into account.

P560 (T): I ended up seeing a different midwife every time, and then I got referred to the hospital anyway to see consultants, and I saw a different consultant every time. Um, I know it's not easy to do, to make sure somebody sees the same person, but I think it's that reassurance. Um, it can be a scary time, especially if there's going to be complications. Um, and not seeing the same face each time you go can make it - that little bit more - make you a little bit more anxious.

P167 (T): We weren't asked about our birth plan and to be quite honest, or birth preferences, and to be quite honest with you I don't think they, I think they care but, not enough.

P460 (T): You feel like you're a number and people don't actually see you, but it's just like, they need to sign lots of papers and do loads of things, so they weren't - looking at you as if you were a person.

P658 (T): It didn't feel natural, like, it felt very forced, very structured... It felt kind of - to a timeframe almost; if you haven't done this by the hour, then this will happen, and if it doesn't happen by this time, then the next step - like, it was just very - manufactured in a sense.

### Ignored

Participants expressed feeling ignored by healthcare professionals and that their concerns or wishes for their birth were dismissed. Participants described feeling insignificant as attention focused on the baby rather than the family unit as a whole, which contributed to women's sense of feeling disregarded by staff.

P345 (T): I'm telling everyone that the pain is coming from my bowel not my bladder but um, they kept putting it down to 'oh you're constipated,' or 'It's just going back to normal, this is usual that your bowel would be in such pain.' And it's not. I've had sections before, I've had surgeries before, I have a huge pain tolerance and um, this wasn't normal so, really - I felt a bit, lost.

P272 (T): I tried to tell them that I had reduced movements, real pain across the top and front of my stomach. It's that I tried to communicate that I was concerned, and none of it - it was just, literally they'd check his heartbeat and say: 'healthy baby', and that was all they were concerned about.

P460 (T): It just felt like I stopped being me, and now I was just a case to contain a baby and everything was about the baby. And that was very hurtful.

### Let down

Women who appraised their birth as traumatic expressed disappointment in the way they perceived their birth to have been managed within the healthcare service. Participants discussed feeling let down by their trust as they were left unsupported to fall through the gaps in the healthcare system.

P345 (T): I was really thrown into limbo because I was no longer um, pregnant, I didn't fit into the maternity system, because I was post-natal. There is no post-natal department... The maternity department will deal with you for 14 days afterwards and then you're thrown into this system - where no one really knows where you go.

P228 (T): The separation - that was the bit that was absolutely awful, I wasn't even in the same hospital as him [baby]. I was in a little room on my own, and my husband ended up going over to the hospital with [baby's name], knowing he was going to have really serious surgery. And, - the true mistake of the hospital I gave birth at, I wasn't transferred over with him.

Amid feeling let down, participants describe feeling robbed of a special and positive childbirth experience. Participants' express disappointment and guilt arising from their birth deviating from the birth they desired and experiencing memory loss when trying to recall aspects of their birth. For some women, physical complications prevented them from being able to fully enjoy postpartum life with their new-borns.

P658 (T): I should be able to look back at it fondly, and I don't, like - people say like, 'that moment when you first saw her', and I don't remember it, I don't remember first seeing her at all.

P345 (T): This is my last baby and I was really, really looking forward to that and enjoying every moment. Um, but it's so difficult now, it's so so difficult.

#### *4.4.2.2. Theme 5: Lack of control: 'I didn't know what had happened to my own body'*

The fifth theme comprises participants' perception of lacking control over their birth environment or the decisions made during labour, delivery or immediately postpartum. This contributed to women feeling vulnerable, exposed and fearful of their birth. Within this theme are also accounts of women experiencing a lack of internal control over their own body during birth.

##### No choice

One of the pertinent aspects of lacking control in participants' discussions of their traumatic birth experience was not having the power to choose the way that their baby was born. This presented as a lack of ownership over their birth.

P167 (T): I [sigh] remember a piece of paper being shoved in my face and saying 'sign it', um and that was it, and I was wheeled away.

P658 (T): I think because I was told I was being, that I would be induced, so even the day that I was giving birth was decided for me. So like, it just felt as if everyone kind of was telling me what was going to happen, like: 'we'll break your waters at this time, we'll give you the next pill at this time', like it was - I wasn't in control, I was just having things done to me.

P460 (T): I felt like, this is my body, this is my experience, I want things this way, I know I want a natural birth... As soon as I went to the hospital, the doctor was like: 'No. You need to get a caesarean because you had a previous caesarean, and that's it. End of story'.

Not having control over the birth environment was also a salient factor that contributed to some women feeling powerless. Having no say in people entering the room whilst in labour, or being unable to move into a desired position during labour, were aspects of the birth that caused women to feel like they had no choice and no control.

P460 (T): My body was telling me, 'you need to turn around, you need to kind of go on all-fours', I wasn't able to, I needed to stay on the bed because the monitor needed to work, and that made me feel like I wasn't in control of anything at all.

### Disconnected

Participants reflected that they experienced a disconnection and a lack of ownership over their birth. This was sometimes in the context of feeling physically disconnected from their bodies or feeling detachment as a result of not knowing what was happening, or from staff talking about them as if they were not present.

P560 (T): Being in the operating theatre, um - and then - having the epidural, and feeling like I could no longer move my legs, and then with the big screen up in front of me, I think just that - not knowing, yeah, what was going to happen.

P272 (T): I didn't know what had happened to my own body. I felt a bit, you know, well what does this mean going forward? What's going to happen, you know? You just feel a bit like everything happens around you, and then, yeah - it was so strange.

P167 (T): I - went from feeling everything like intense sort of, intense surges, and you know, no let up, to suddenly feeling nothing, which was a complete and utter disconnect from that.

## Undignified

Participants conveyed that they did not feel that they were treated with dignity during or immediately after their birth. This contributed to participants feeling vulnerable, exposed and defeated.

P228 (T): They discharged me to home, and I couldn't get into my house because I couldn't go up the stairs, and um - I was put in a taxi still in a hospital gown and dumped outside A&E.

P272 (T): They'd given me a catheter, which was fine, but um, they didn't make me aware that then I'd be wetting myself for 12 to 14 hours...So the first time it happened, obviously I was *mortified*, I didn't know what was going on. And - I sent my partner out, because I literally, I feel like I'd reached the point where - he'd seen that much, did he really need to see anymore? Like, I have nothing left.

P658 (T): I felt like all these people I don't know, and I'm just like so, like, open, and vulnerable, like, completely uncovered...and, that - to me, that was a big deal. And if someone would've simply just said, 'oh, just hang on a second', and put a blanket over me, I feel like it would've changed the whole scenario? And I would've felt a lot more in control.

## Fearful

Women described feeling fearful for themselves or their baby as a result of a lack of control over what was happening during and immediately after their birth. Some women also expressed anxieties leading up to the birth. These included anxieties about having, or the possibility of having, a Caesarean section; or fear for themselves or their baby due to a previous traumatic birth, complications with the baby during pregnancy or feeling unsafe in the hospital.

P272 (T): It was all so - rushed. You could tell, you know, that they were trying to find blood, and everyone was shouting at each other. It was, it was - just so scary.

P560 (T): I found it quite frightening the thought of having a c-section, um - just purely that I've got a daughter already, I'm scared of what could happen to me and scared about the whole procedure, and about the recovery time as well.

P460 (T): I was so nervous and so anxious...all that was happening in my mind was, 'please don't let the same thing that happened last time, happen again'... I was focusing on what I didn't want to happen, that I wasn't actually paying much attention to what was happening.

#### *4.4.2.3. Theme 6: In the dark: 'No one was talking to me'*

The final theme under the category of feeling powerless relates to women feeling 'in the dark' before, during and after their birth. This theme comprises women's perceptions of feeling unprepared because of limited information provided antenatally about alternative feeding options or assisted deliveries, or limited postpartum information and support for breastfeeding or recovery after birth. This theme also consists of participants reflecting on the poor communication with staff that they experienced during their birth. The subtheme of poor communication predominantly emerged in interviews with women who appraised their birth as traumatic. However, both women who appraised their birth as traumatic and women who appraised their birth as non-traumatic expressed insufficient antenatal information and postpartum support.

##### Poor communication

Participants reflected on being uncertain of what was happening to them during or immediately after their labour and delivery because of a lack of communication with health care providers. Some women expressed feeling as if they were not given the opportunity to discuss procedures before they were performed and were left unsure as to why procedures



were performed in the first place. Other women described poor communication in the context of being given unreliable or erroneous information by staff.

P658 (T): I had the epidural, and I had all that done, to be ready to go, and then when I got in there, they said: 'oh, we're going to try forceps'. Even that – it was kind of discussed, but at the very last minute, and it didn't feel like I could've said: 'wait, can you explain it more?' It was just very much a: 'oh, you're already here now ready, so we might as well just try forceps, and just do this, and just do that'.

P272 (T): No one was talking to me. Um, I was – I was just, I can remember laying under the big like, the surgical light? And thinking, like: 'my god, my kids', like 'my older kids don't even know I'm here', and um – yeah, it – it, was just – really scary... And someone just then said, 'oh, we'll do our best', to me, and I was thinking, 'well what does that even mean?'

P228 (T): The information I got given after my c-section was all wrong. I was told I'd need stitches taken out, I didn't, they were dissolvable. I should've been tested for my insulin levels to make sure they had gone down afterwards, I wasn't.

### Limited antenatal/postnatal information

Regardless of appraisal of birth as either traumatic or non-traumatic, women discussed the information and services provided before and after the birth as limited and not inclusive of all options or birth routes. Many women described taking the initiative to educate themselves on the science of labour and delivery during pregnancy and reflected that their antenatal classes were not reflective of their experience and inadequate in informing them of all possible eventualities or options.

P167 (T): I didn't really plan it or didn't really know what, how a c-section would go because they talk about a lot of pain relief and everything for a natural birth, and c-sections, it's kind of a bit like – yeah you get surgery and that's it.

P129 (NT): Caesareans aren't always really covered as a birth option... even in antenatal, it wasn't really spoken about too much. It was almost like, you know, you don't get that unless you sort of, elect it privately or you're in an emergency situation. Then they don't really tell you too much about the aftercare and - you know, it's very different to someone who's had a natural birth... That is almost not covered as much, you feel a bit like it's frowned upon. Same with formula feeding, if people do combination feeding, that isn't covered, at all.

Participants also voiced their concerns over the gaps in postnatal support for both practical guidance on breastfeeding or recovery, and psychological support for women's mental health after the birth. Women who did access postpartum support often clarified that they had to independently research and seek out support services.

P133 (NT): Looking back now, they should employ someone specifically to help with breastfeeding, for any mum who wants to do it. Because you don't get a lot of help before you have the baby, let alone afterwards.

P345 (T): I've been left in limbo; I've had no support, no mental health support at all. Um, and I'm still in an excruciating amount of pain.

## 4.5. Discussion

The current study aimed to document women's experiences of both traumatic and non-traumatic childbirth to discover factors that may contribute to women's appraisals of their birth. Thematic analysis of interviews with women in the postpartum period revealed two main categories of themes that relate to whether the mother felt empowered or powerless during her birth and during the postnatal period. Themes within the category of feeling empowered emerged predominantly in interviews with women who appraised their birth as non-traumatic. Conversely, themes related to feeling powerless were largely present in interviews with women who did appraise their birth as traumatic. However, two subthemes pertaining to partner support and limited antenatal and postnatal information were consistent amongst all women interviewed, regardless of birth appraisal. Thematic analysis was conducted on all interviews collectively and differences between groups emerged as contrasting themes (e.g. trust vs. distrust), as shown in *Figure 4.1*. Because of the contrast between themes reflecting oppositional differences between birth experiences appraised as traumatic and non-traumatic, the discussion section is structured in a way to address each dyad of contrasting themes comparatively.

### 4.5.1. Empowered vs. Powerless

The two overarching categories that emerged from this study were feeling empowered or feeling powerless during birth. The empowerment of pregnant women is defined as a sense of self-fulfilment and increased independence, gained through interaction with their environment and other individuals, leading to increased self-efficacy to achieve the pregnancy and childbirth they desire (Kameda & Shimada, 2008). The multi-faceted

attributes of perinatal empowerment are reflected in the current study within themes identified by women describing their non-traumatic birth experiences. Increased self-efficacy was apparent in the theme surrounding women's sense of control, whereas, 'fulfilment and increased independence, gained through interaction with their environment and others' is reflected in interpersonal themes surrounding trust and feeling informed during birth. Perinatal empowerment, and interventions supporting empowerment before and during childbirth, are associated with reduced perinatal depressive symptoms postpartum and a more positive appraisal of birth (Garcia & Yim, 2017; Nilsson et al., 2013). Conversely, feeling powerless during birth has been associated with the development of psychological trauma and postnatal PTSD (Soet et al., 2003).

In the current study, feelings of powerlessness were predominantly associated with a traumatic appraisal of childbirth. The significance of feeling powerless for women who had negative childbirth experiences is highlighted in a recent social media content analysis of women's stories of their maternity care (van der Pijl et al., 2020). van der Pijl et al., (2020) described women's sense of powerlessness in the context of negative interactions with staff, e.g. lack of compassion; lack of informed consent and not feeling listened to, as well as within the emotional trauma experienced postpartum. In the current study, feelings of powerlessness emerged in three main themes: distrust, lacking control and feeling in the dark. Importantly, a sense of powerlessness was present amid all themes despite the diversity in birth experiences from women who appraised their birth as traumatic. In cases of distrust of healthcare providers, women described feeling dismissed and disregarded by staff, creating a sense of powerlessness and defeat. Similarly, a lack of control over decisions made and feeling kept in the dark left women feeling powerless to achieve the birth they desired.

#### 4.5.2. Trust vs. Distrust

One of the salient aspects of feeling empowered or powerless surrounded women's interactions with the people around her during birth. Women who perceived their maternity care as personalised and respectable were amongst those who appraised their birth as non-traumatic. For these women, descriptions of staff support typically centred around intuitive, compassionate and consistent care whereby the mother felt listened to and respected. This ultimately fostered a relationship of trust between the mother and the people around her during birth. The importance of trusting relationships with healthcare professionals has been attributed as a key component for a positive birth experience (Leap et al., 2010). In particular, consistency of care providers, and following a continuity model of midwife-led care is associated with improved outcomes and greater satisfaction when compared with obstetric-led models (Fair & Morrison, 2012; Hatem et al., 2008). A meta-synthesis of qualitative accounts from women who experienced midwife-led care for their birth, presented the midwife-woman relationship as the principle vehicle through which personalised care, trust and empowerment are achieved (Perriman et al., 2018). This emphasises the value of consistent, personalised maternity care for families.

As presented in Study I, women's perception of feeling supported by staff is also significant in mediating the relationship between obstetric intervention and trauma symptoms postpartum (*see Chapter 3*). This is particularly relevant for the women in this study who appraised their birth as traumatic, as participants in this group experienced a greater level of obstetric intervention during birth (*see Table 4.1.*). However, women who appraised their birth as traumatic typically referred to the care they received as impersonalised and inconsistent, causing women to feel disregarded and generally distrustful of staff. Perceived poor support from staff is consistently cited in both quantitative and qualitative studies of

women's traumatic birth experiences (Elmir et al., 2010; Simpson & Catling, 2016) and is considered a key component of how women reflect on their birth as either a positive or negative experience (Taheri et al., 2018). In the current study, women who appraised their birth as traumatic described de-individuated care, which created feelings of anonymity and distrust in a system that felt impersonal and 'manufactured'. This ultimately left women feeling robbed of a special birth experience with their new-borns.

One subtheme that was evident for all women, regardless of birth appraisal, was the trust in partners to provide support during birth. For women who appraised their birth as non-traumatic, their partners were described as 'present in the background' and intuitive to their needs. Partners were discussed as playing an active role in birth preparation and decisions made during birth, and were able to adapt through the changing stages of labour. The value of mutual antenatal preparation is recognised as a way to facilitate feelings of a strengthened relationship by enhancing communication abilities and a sense of togetherness (Bäckström et al., 2017). This was apparent amongst women who discussed practicing relaxation techniques with their partners antenatally. Whereas for women who appraised birth as traumatic, partners were described as supportive by helping to bridge gaps in communication with healthcare professionals. For these women, partners were advocates for them and actively sought information and spoke up in support of them. Providing advocacy and informational support are recognised as two of the key roles played by birth companions alongside practical and emotional support (Bohren et al., 2019). The relevance of partner support for all women in the current study highlights the value of birth companions to provide a sense of familiarity, feeling valued and respected (Kirova & Snell, 2019). With this in mind, the current restrictions placed on maternity care due to the Covid-19 pandemic are particularly sombre. As part of the national lockdown restrictions, partners are not allowed to attend antenatal

scans, appointments or postnatal ward visits and, for some trusts, are only able to be present at the birth during ‘established labour’ (NHS, 2020b). This has sparked the viral campaign ‘#ButNotMaternity’ in an attempt to raise awareness of the potential detrimental impact on women from going through birth alone and plea to loosen restriction regulations for maternity practice (Paul, 2020). As presented in the current study, many women who found their birth traumatic experienced impersonalised care, and for these women, the presence of their partner provided them with familiarity and reassurance that was otherwise missing from the maternity care they received. Without this, one could assume the experience of birth to have been even more isolating.

#### **4.5.3. Control vs. Lack of Control**

The perception of having control, or experiencing a lack of control, was a principal component of whether women felt empowered or powerless during their birth. Across both themes, there was a distinction between experiencing internal control over one’s own behaviour and body, and external control over one’s environment and the decisions made during birth. Women who appraised their birth as non-traumatic discussed having an element of control over decisions that were made through vocalising their needs and wishes for their births. External control in this context requires attentive staff support to bestow women with the confidence that their voice would be heard and ensure women played an active role in decisions (O’Hare & Fallon, 2011). Decision-making and having the ability to choose the care and interventions received, is considered one of the core components of feeling in control during childbirth, which subsequently is attributed to a more positive appraisal of birth (Meyer, 2013). However, it is important to note that whilst women do not always desire complete autonomy during birth (Green, 1999) a sense of choice and control is associated with greater satisfaction and decreased maternal anxiety (Cheung et al., 2007; Christiaens &

Bracke, 2007; Fair & Morrison, 2012). Indeed, a survey of 1,336 new mothers in Australia found that 96% of women stated that they did want to be given a say in what happened during their labour and birth (Brown & Lumley, 1998).

The value of self-determination is recognised as a key component of what is considered a ‘good’ birth and is defined as the ability to have a birth that is shaped and guided by one’s own inclinations and values rather than those of others (Namey & Lysterly, 2010). This was apparent in the women who appraised their birth as non-traumatic, including those women who experienced an assisted delivery. Both participants described having control over specific elements of their birth that they valued highly, independent from delivery mode, e.g. skin-to-skin contact and initiating breastfeeding. Additionally, both participants emphasised the positive and personalised staff support that they received that contributed to their sense of trust in their maternity care providers to deliver their babies safely and allow them to relinquish control without fear. It is suggested that the willingness to relinquish control to healthcare professionals can paradoxically enhance one’s sense of control during birth, but it is the agreeableness to relinquish control that is important, which relies upon a foundation of trust (Green, 1999; O’Hare & Fallon, 2011).

Allowing healthcare professionals to take control during birth is accepted more if the mother is able to maintain internal control (O’Hare & Fallon, 2011). But issues can arise when there is conflict between external and internal control and if the mother experiences uncertainty and perceives to be an unequal participant in a medical world (Snowden et al., 2011). In the current study, the women who appraised their birth as traumatic reflected on not having a choice over the way their baby was born or the way their maternity care was managed during



birth or postpartum. These women often expressed experiencing impersonalised maternity care and a disconnect from their birth or immediately postpartum. Hall et al (2018) found that a sense of agency can be compromised by unresponsive caregiver interactions and women's vulnerability in labour. They suggest that when agency is diminished, women are more likely to experience intense negative emotions and the sense of 'falling apart' during their birth. This highlights the interplay between support and control and is reflected in women's traumatic accounts of their childbirth experiences within descriptions of feeling undignified and disconnected. In the current study, some women reflected on feeling as though they were not treated with dignity and used dehumanising language when describing the mistreatment they received from healthcare providers. A review of qualitative research revealed 'being treated inhumanely' as a core underlying theme for women's experience of traumatic childbirth, which underpins feelings of a lack of control and a sense of inadequacy (Elmir et al., 2010). In this study, feeling undignified was discussed in the context of not having control over people entering the room or being treated inhumanely and without compassion. This removal of agency may have contributed to feeling disconnected from the birth and a sense of reduced internal control over one's body and behaviour during labour, delivery and immediately postpartum.

Additionally, women who appraised their birth as traumatic often discussed fear and anticipation of a negative experience with healthcare professionals before the birth. A perception of distrust typically stemmed from either concern over staffing issues, negative experiences during antenatal appointments or from previous traumatic birth experiences. This created a sense that women were preparing themselves to 'go into battle' and used defensive language that coincided with 'a fight', describing the support from their partners as necessary in defending them. The perception of 'us against them' is presented in a previous interview

study with women from Ireland who reported birth as traumatic (Byrne et al., 2017). Byrne et al., (2017) present the potential detrimental consequences for women's identities being challenged and altered during birth as a result of women feeling at odds with the maternity system. This is in stark contrast to women in the current study who appraised their birth as non-traumatic and described their maternity care as 'there to help me'. It can be assumed that anticipation of a negative experience and fear of the birth environment, will influence the level of perceived control women have over their birth (Nilsson, 2014). Further study may benefit from measuring fear of childbirth antenatally to determine the predictive value of fear before the birth on the appraisal of birth as traumatic.

#### **4.5.4. Informed vs. In the Dark**

The final theme within each overarching category relates to how informed the mother felt before, during and after the birth. Women who appraised their birth as non-traumatic discussed feeling prepared and aware of their options because of the information received before and during birth. Many women discussed conducting their own research antenatally into the science of labour and delivery, which empowered them with the knowledge of the choices available to them, and allowed them to make personal preferences whilst also being aware of their options and possible eventualities. Kuo et al., (2010) found that women who were informed of birth options and created birth plans antenatally, felt more in control during birth and had greater satisfaction with their birth. The authors concluded that writing a plan helped women think through scenarios ahead of time and anticipate the choices they would make when faced with certain decisions. This is apparent in the current study, whereby women who appraised their birth as non-traumatic discussed retaining control over certain decisions that were made during the birth as they were made aware of the options available to

them throughout. Being aware of options and consequently being empowered with choices during birth may have facilitated women expressing an ‘ends justifies the means’ mentality when reflecting on aspects of their birth that deviated from their desired labour and delivery (Cook & Loomis, 2012).

A prerequisite to being aware of options throughout labour and delivery is good communication with the maternity staff around you. Many of the women in the current study who appraised their birth as traumatic, reflected on poor communication with staff and feeling as though they were ‘kept in the dark’ with regards to what was going on around them and what choices the mother had available to her. Feeling uninformed and not consulted about the benefits and risks of obstetric procedures experienced during childbirth is also highlighted in a survey study of women’s maternity care experiences (Thompson & Miller, 2014). Thompson and Miller (2014) reported over a quarter of women who had episiotomies during birth felt uninformed about the procedure and 13% of women reported feeling uninformed and not consulted about vaginal examinations. In the current study, the perception of feeling uninformed of the risks and benefits of procedures is expressed in some women’s accounts of their traumatic birth experiences when reflecting on not having a choice over obstetric procedures and feeling left out of discussions between healthcare professionals. There is evidence that poor communication with maternity staff can lead to an increase in mental health problems postnatally (Baker et al., 2005) and reluctance to engage with support services (Raine et al., 2010). It is also suggested that receiving contradictory or inconsistent information regarding birth options or medical information can affect women’s sense of security over their births (Munch et al., 2020). This was apparent in some women’s traumatic birth experiences when describing erroneous information given immediately postpartum regarding their aftercare.

An element of feeling in the dark expressed by all women in this study was the lack of information provided antenatally and lack of support postpartum. All women, regardless of birth appraisal, reflected on the antenatal information they received from appointments and antenatal classes as being inadequate. This was in the context of insufficient information for all birth routes and options, or of practical postpartum support for breastfeeding or recovery. This finding is consistent with previous perinatal research in the UK, which found that mothers found antenatal information to be often unrealistic and not tailored to their individual needs (Lavender et al., 2000). As a result, many women discussed taking the initiative to educate themselves on the choices available to them during pregnancy, labour and postpartum. Similarly, all women in the current study reflected on the support received postpartum as being insufficient in some way. This was either in the context of limited or absent mental health support, access to breastfeeding support or access to information on recovery after Caesarean section. This finding is consistent with research by the National Childbirth Trust (NCT), which reported that 45% of mothers in the UK felt their six-week postnatal check-up was not thorough enough (NCT, 2015). Additionally, the most recent national survey from the Care Quality Commission (CQC) revealed that a quarter of women said they would like to have seen a midwife more often after going home (Care Quality Commission, 2020). With regards to mental health support, the CQC also reported that 30% of women said their GP did not spend enough time talking to them about their mental health, and a further 30% said their GP did so ‘to some extent’ during their postnatal checks 6-8 weeks postpartum (Care Quality Commission, 2020). This is particularly relevant as recent research revealed almost half of new mothers’ mental health problems are not picked up by a healthcare professional (NCT, 2017). Similarly, improved postpartum support for breastfeeding is recommended in the Better Births campaign in light of many women reporting receiving conflicting information and stopping breastfeeding before they wanted to

(Cumberlege et al., 2016). NICE guidelines on postnatal care up to eight-weeks after birth recommend that healthcare professionals give relevant and timely information to women so they can look after their own and their babies' health and wellbeing (NICE, 2015). Yet this is recognised as an area that requires improvement in current maternity practice (Care Quality Commission, 2020) and the findings from the current study support this. In this study, availability of information and support before and after birth did not necessarily contribute to a traumatic appraisal of birth, yet the relevance of this in terms of empowering women during the perinatal period is significant for all mothers.

#### **4.5.5. Strengths and Limitations**

The qualitative design of this study enabled exploration into aspects of the subjective experience of birth that may contribute to women's appraisal of a traumatic or non-traumatic childbirth experience. The comparative nature of the emerging themes provides a clear framework of factors that are significant for women during birth and relate to how empowered or powerless a mother feels, which can be influenced by her perceived support, control and understanding of birth events. Importantly, many of the themes for both groups of women relate to the relationship between the mother and the people around her during birth. This provides further evidence that the consistency and quality of care provided during birth is a core factor in how women reflect on their childbirth experience. Nevertheless, as a qualitative study, we cannot draw conclusions about the direction of causality.

It is also important to acknowledge that a greater proportion of women who found their birth traumatic experienced an assisted delivery. Furthermore, the one participant from this group who had a normal vaginal delivery experienced postpartum haemorrhage. Research presents a

potential higher risk of PTSD amongst women who have assisted delivery or severe morbidity during birth (Ayers et al., 2016; Dekel et al., 2019; Furuta et al., 2012). Therefore, it was unsurprising that this sample presented with greater levels of obstetric intervention. However, one should bear in mind this disparity between women who appraised their birth as traumatic or non-traumatic when drawing comparisons between themes. Future research would benefit from a matched sample design so that obstetric factors can be controlled between groups and greater emphasis can be placed on the subjective experience of birth. The sample for the current study was self-selected and generated from participants involved in a longitudinal questionnaire study (*Study III*) who volunteered to take part in interviews postpartum. The frequency of women who experienced assisted deliveries amongst the subsample of women who found their birth non-traumatic was low, therefore it was not possible to match the two groups based on obstetric events.

#### **4.5.6. Conclusions**

The current study documented women's traumatic and non-traumatic birth experiences. The novel comparative framework can provide a useful first step toward identifying aspects of the birth that may contribute to women's appraisal of their childbirth as either traumatic or not traumatic. Thematic analysis revealed a fundamental distinction between feeling empowered or feeling powerless during labour, birth and immediately postpartum. The factors that contributed to a sense of empowerment related to women's trust in the maternity care around them, the sense of control they felt over their body and birth and the extent to which they felt informed of options. Ultimately, the majority of themes that emerged relate to the dynamic between the mother and the healthcare professionals around her. Contrastingly, themes that contributed to women's sense of powerlessness involved feeling distrustful of maternity staff,

feeling uninformed and lacking a sense of control over how their baby was born, or events that occurred immediately postpartum, resulting in feeling disconnected, undignified and fearful. Many of these interpersonal factors are addressed in the national '*Better Births*' report, which outlines the need for consistent and personalised maternity care, better communication of information and access to postnatal support (Cumberlege et al., 2016).

## CHAPTER FIVE

### PROSPECTIVELY MEASURING VULNERABILITY TO TRAUMA AFTER CHILDBIRTH

*'The true measure of any society can be found in how it treats its most vulnerable members.'*

*Mahatma Gandhi*



## 5.1. Preface

The research presented so far in my thesis has outlined some of the characteristics of women's childbirth experiences that may contribute to birth being appraised as traumatic and to the development of postnatal PTS symptoms. However, both my survey study and my interview study were conducted retrospectively with women during the postpartum period. The motivation behind Study III was to incorporate a longitudinal design with women during their third trimester of pregnancy through to three-months after they had given birth. This would allow me to prospectively research birth trauma and assess potential vulnerability factors during pregnancy as well as risk factors during the birth itself. Therefore, this chapter presents the design and findings from the largest study I conducted during my PhD. The longitudinal study followed a large cohort of women at three time points: during the third-trimester of pregnancy, during the first month postpartum and three-months postpartum. The findings from Study I informed my decision to test the relative influence of perceived support and control during birth as well as measures of obstetric intervention. Additionally, the relevance of fear from Study I informed my decision to incorporate a 'fear of childbirth' measure during pregnancy. The longitudinal design allowed me to measure antenatally the potential impact of three exploratory variables: trait alexithymia, trait dissociation and desirability of control. These variables were inputted into a hierarchical regression model with factors associated with the birth experience to generate a new predictive model for postnatal trauma symptoms and general postnatal psychopathology.

## **5.2. Introduction to Study III**

Unlike most life events, the relatively predictable nature of childbirth means that research can employ a longitudinal design to prospectively measure predisposing factors during pregnancy, as well as precipitating factors during the birth, that may predict the later development of trauma symptoms. Using prospective studies to develop a predictive model of risk factors can help prevent postnatal PTSD by identifying vulnerable women during pregnancy and formulating appropriate aftercare for expectant mothers.

The first prospective study to measure postnatal PTSD was published in 2001 and reported chronic PTSD in 1.5% of women after accounting for PTSD during pregnancy (Ayers & Pickering, 2001). This was a seminal research study as it introduced the concept of childbirth as a potentially traumatising event for women that can elicit symptoms of PTSD despite no prior history of PTSD. Since then, many research studies have adopted the same longitudinal design and proposed a diathesis-stress model to explain predisposing vulnerability factors and birth-related risk factors that can give rise to postnatal PTSD (Ayers, 2004). Several vulnerability factors have been associated with postnatal trauma such as prior trauma (Ford et al., 2010; O'Donovan et al., 2014; Soderquist et al., 2009), depression during pregnancy (Garthus-Niegel et al., 2013; Soet et al., 2003; Van Son et al., 2005; Verreault et al., 2012), trait anxiety (Czarnocka & Slade, 2000; Garthus-Niegel et al., 2014), history of mental health difficulties (Czarnocka & Slade, 2000; De Schepper et al., 2016) and severe fear of childbirth (Garthus-Niegel et al., 2013; Soderquist et al., 2009).

Additionally, there have been several reviews of the literature to systemise the collective findings from longitudinal research on birth trauma (Andersen et al., 2012; Bailham &

Joseph, 2003; Olde, van der Hart, et al., 2006; Simpson & Catling, 2016). A recent review of risk factors for postnatal PTSD five key categories of risk: a negative subjective experience of birth, maternal mental health, trauma history and PTSD, delivery mode and low social support (Dekel et al., 2017). A negative subjective experience of childbirth emerged as the most prominent predictor and encompassed fear of childbirth measured in pregnancy as well as a lack of control during birth measured postnatally. The current study aimed to build upon the existing body of literature by including antenatal measures of predisposing alexithymia, dissociation and desirability of control, as well as separating the subjective experience of birth into perceived internal and external control, dissociation and perceived staff support.

The first novel exploratory factor in this study is alexithymia. Alexithymia has been conceptualised as a personality construct and reflects deficits in the cognitive processing and regulation of emotions (Taylor, 2000). The word ‘alexithymia’ originates from the Greek meaning ‘no words for emotion’, [*a* (no) – *lexis* (words) – *thymos* (emotion)] and the term was initially coined in the 1970s to describe cognitive and affective symptoms of patients with psychosomatic illness (Sifneos, 1973). The salient features of alexithymia include: a difficulty identifying feelings and distinguishing feelings from bodily sensations of arousal; a difficulty in describing feelings to others; constricted imaginative capacity and an externally orientated cognitive style, which manifests as a tendency to focus on concrete details of external events rather than aspects of one’s own inner experience (Nemiah et al., 1976). Alexithymia is suggested to derive from early interactions and insecure attachments with caregivers (Wearden et al., 2003). Yet there are also strong theoretical links between alexithymia and trauma. After observing alexithymic traits amongst Holocaust survivors, Krystal (1981) proposed that alexithymia arises as a functional response to trauma. This is deemed ‘secondary alexithymia’ (Freyberger, 1977), and offers an explanation for greater

alexithymic traits present in individuals who have been exposed to trauma (Cloitre et al., 1997; Söndergaard & Theorell, 2004). However, research suggests alexithymia is related to the presence of post-traumatic symptoms rather than exposure to trauma alone (Frewen et al., 2008; Hyer et al., 1990; Yehuda et al., 1997). The overlap between PTS symptoms and alexithymia has led some researchers to question the discriminant validity of alexithymia as an independent construct separate from the emotional numbing, avoidance and hyperarousal symptoms characteristic of PTSD (Badura, 2003; Declercq et al., 2010). Conversely, other researchers have postulated alexithymia to be a pre-existing condition that increases the probability of developing PTSD to explain the association with PTS symptoms rather than with trauma exposure itself (Yehuda et al., 1997). It is reasonable to assume that individuals who find difficulty in expressing and identifying their emotions would be vulnerable to components of PTSD characterised by affective dysregulation following trauma (Goerlich, 2018). As the majority of trauma research is conducted retrospectively, it is difficult to discern whether a predisposition to alexithymic traits could present as a vulnerability to the development of PTS symptoms following trauma, or if alexithymia reflects a PTS-like response to trauma (Frewen et al., 2008). To explore this relationship further, the current study measured PTS symptoms and alexithymia separately during pregnancy and then again at three-months postpartum. To my knowledge, this is the first study to prospectively measure alexithymia as both a potential vulnerability factor for the development of PTS symptoms and as a response to trauma. Alexithymia in the context of postnatal trauma has particular relevance due to recent qualitative research highlighting alexithymia to be a common characteristic amongst mothers suffering with PTSD after childbirth (Peeler et al., 2018).

Alexithymic traits, such as difficulties in identifying emotion, have been positively correlated with dissociative tendencies (Elzinga et al., 2002). Dissociation is defined as a disruption of the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control and behaviour (APA, 2013). Dissociative experiences range from relatively common incidents, such as being absorbed in a story, to more severe states such as not recognising oneself in the mirror (Bernstein & Putnam, 1986). Similar to alexithymia, dissociation can arise as a response to a traumatic experience as it allows the individual to compartmentalise and detach from their reality (Brown, 2006). However, dissociation is thought to be a maladaptive defence mechanism as it prevents the integration of traumatic memories (Brewin et al., 2010). It is therefore considered a critical element in the development of symptoms such as re-experiencing and avoidance in PTSD (van der Kolk & Fisler, 1995). Indeed, perinatal research has identified dissociation during childbirth as a prominent risk factor for the later development of postnatal trauma symptoms (Andersen et al., 2012; Engelhard et al., 2002; Olde et al., 2005; Thiel & Dekel, 2020; Van Son et al., 2005). Because of this association, it is suggested that maternity staff look out for women showing signs of dissociation during birth for postpartum follow-up to assess for possible PTSD (Ayers et al., 2016; Zambaldi, Cantilino, Farias, et al., 2011). However, less research has explored the link between a predisposition to dissociative experiences and postnatal trauma. One study presents an indirect relationship between a predisposition to dissociative experiences and postnatal trauma via perinatal dissociation during birth (Haagen et al., 2015). The current study aimed to clarify further the link between dissociation and postnatal trauma and so incorporated measures of dissociative experiences antenatally as well as measures of self-report peri-traumatic dissociation during the birth. If a predisposition to dissociative experiences presents as a risk factor for postnatal trauma, it would offer a more preventative approach to screening vulnerable women during pregnancy and creating an appropriate care

pathway. The current study also aimed to explore the theoretical association between peritraumatic dissociation and re-experiencing/avoidance symptoms by separating symptom clusters and assessing the relative influence of predisposing factors for both birth-specific and general trauma symptoms.

The third and final exploratory factor measured in the current study relates to women's desirability of control. Reviews of postnatal trauma research document a perceived lack of control during childbirth as a risk factor for the later development of PTS symptoms (Ayers et al., 2016; Grekin & Hara, 2014; Olde, van der Hart, et al., 2006). Longitudinal research measuring locus of control antenatally, has revealed higher external locus of control as a vulnerability factor for postnatal trauma (De Schepper et al., 2016; Soet et al., 2003). In spite of these findings, there appears to be a working hypothesis within maternity practice that women who hold a greater desirability of control, and thus enter labour with certain expectations, are more likely to appraise their birth negatively because of their expectations not being met (Green et al., 1990; Macdonald, 1987). Green et al., (1990) conducted a longitudinal study which debunked this stereotype. They found that having high expectations for birth antenatally was not associated with negative psychological outcomes, but low expectations were associated with lower birth satisfaction and lower postnatal emotional well-being (as measured by depressive symptom presentation). However, the role of desirability of control has yet to be investigated prospectively in relation to postnatal trauma symptoms or with reference to perceived internal and external control during birth.

The current study aimed to measure the predictive value of alexithymia, trait dissociation and desirability of control on postnatal trauma symptoms as possible predisposing vulnerability factors that could be screened antenatally. Additionally, the study investigated the role of

state dissociation during birth on birth-related and general trauma symptoms, as well as the impact of perceived internal and external control and staff support during birth on postnatal trauma symptoms, depression and anxiety symptoms. A prospective longitudinal survey study with women in their third trimester of pregnancy was designed to measure predisposing factors during pregnancy, characteristics of the birth at three-weeks postpartum and then psychopathological symptoms at three-months postpartum. Alongside the three exploratory variables (alexithymia; dissociation and desirability of control), women also self-reported symptoms of depression, anxiety, posttraumatic stress and fear of childbirth during their third trimester of pregnancy. These additional measures were selected as they have been presented as vulnerability factors to postnatal trauma symptoms in previous predictive models (Garthus-Niegel et al., 2013). We therefore hypothesised that these factors would be associated with postnatal trauma symptoms at three-months postpartum. The three exploratory factors are a novel addition to predictive models of postnatal PTS symptoms, therefore a null hypothesis is posited that there will be no relationship between these factors and postnatal trauma. However, based on one prior study into a predisposition for dissociative experiences (Haagen et al., 2015), we can assume trait dissociation will present an indirect relationship with trauma via dissociation during childbirth.

With regard to characteristics of the birth, previous research (as well as the findings from Study I) dictates that subjective experience is a stronger predictor of postnatal trauma than obstetric experience (Dekel et al., 2017; Ford & Ayers, 2011). A lack of control during birth and poor staff support are characteristics of the birth that are continually documented as risk factors for postnatal trauma (Adewuya et al., 2006; De Schepper et al., 2016; Grekin & Hara, 2014; Olde, van der Hart, et al., 2006). Feeling dissociated during childbirth has also been found to be a risk factor for later trauma symptom development (Haagen et al., 2015; Olde et

al., 2005; Thiel & Dekel, 2020; Van Son et al., 2005). Therefore, in the current study, subjective birth experience was assessed at three-weeks postpartum using separate measures for perceived staff support, internal control, external control and perinatal dissociation. Separating subjective factors can afford further insight into the individual components of the subjective experience of birth that may be predictive of postnatal trauma. This is particularly relevant due to the differences between support and control presented in the content analysis of the qualitative component of Study I, which presents support and control as two distinctive themes. Furthermore, thematic analysis of interviews with mothers presented in Chapter Four, presents separate aspects of control pertaining to internal control over one's body (e.g. connectedness with the body) and external control over the birthing environment or information provided during birth. Following from the findings of Study I, presenting a full mediation effect of perceived support on obstetric intervention, we can hypothesise that level of obstetric intervention will not be predictive of postnatal trauma symptoms once these subjective factors are taken into account. However, the relevant predictive value for postnatal trauma symptoms from each subjective factor is uncertain.

Finally, as well as measuring trauma symptoms, the current study also incorporated measures of depression and anxiety both antenatally and at three-months postpartum. To date, postnatal depression has dominated the field of perinatal mental health research and is often used to explain poor mental health outcomes in the postpartum period, even when symptom presentation is not reminiscent of depression (Matthey et al., 2003). It has been suggested that women who fail to resolve their traumatic birth experience may manifest depressive symptoms such as blunted affect and helplessness (Creedy, 1999). This may explain the high comorbidity seen between depression and trauma symptoms in the postpartum period (Dekel et al., 2020; White et al., 2006). Similarly, postnatal anxiety is a frequent comorbidity with



depression and has received limited research attention (Falah-Hassani et al., 2016). In the current study, postnatal depression, anxiety and trauma symptoms were measured separately to explore possible differences in predisposing vulnerability factors and risk factors associated with the birth for all three measures of postnatal psychopathology. A review of risk factors for postnatal depression suggest aspects of the birth experience to be of less significance for depressive symptom development (Robertson et al., 2004), whereas postnatal anxiety and trauma are often associated with a negative birth experience as well as predisposing vulnerability (Dekel et al., 2017; Field, 2018). We therefore hypothesise that there will be differences in the aetiological pathways for postnatal trauma symptoms and postnatal depression and anxiety.

In summary, the objectives of the current study are as follows:

- 1) To test whether alexithymia, a predisposition to dissociative experiences and trait desirability of control during pregnancy can predict postnatal trauma symptoms at three-months postpartum.
- 2) To explore the role of alexithymia in trauma, namely if alexithymia presents as a vulnerability factor to the development of trauma symptoms or a functional response to a traumatic experience.
- 3) To examine which elements of the subjective birth experience contribute to postnatal trauma (i.e. internal or external control, state dissociation or perceived staff support), and to measure the contribution of subjective birth characteristics to postnatal trauma in comparison to the obstetric birth experience.
- 4) To explore possible differences in the aetiology of trauma symptoms compared to postnatal depression or anxiety symptoms at three-months postpartum.

## 5.3. Method

### 5.3.1. Design

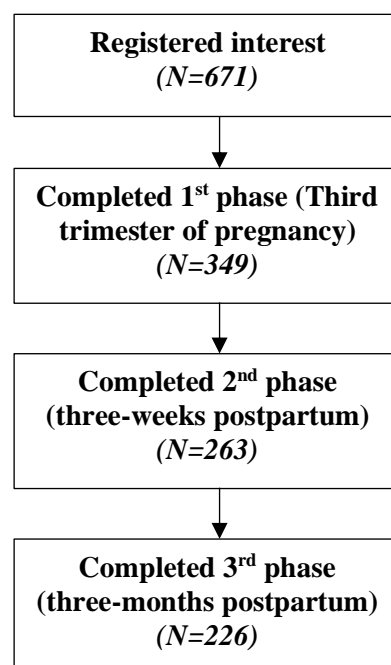
This study was a repeated-measures longitudinal survey with questionnaires completed by women at three time points: during their third trimester of pregnancy (time one: mean 32.3 weeks, SD 4.9 weeks), three weeks postpartum (time two: mean 24.0 days postpartum, SD 14.8 days), and three months postpartum (time three: mean 12.5 weeks postpartum, SD 2.9 weeks). The following measures were taken at each time point:

1. **Third trimester:** alexithymia; dissociation; desirability of control; fear of childbirth; PTS symptoms; depression and anxiety symptoms.
2. **Three weeks postpartum:** obstetric intervention; dissociation during birth, perceived support and internal/external control during birth; PTS symptoms.
3. **Three months postpartum:** PTS symptoms; alexithymia; depression and anxiety symptoms.

### 5.3.2. Participants and Recruitment

Women who were aged over 18 years, live in the UK and in their third trimester of pregnancy were invited to take part in the study. Participants were recruited from online forums and social media pages aimed at expectant mothers. This study was only promoted on pages where group administrators or moderators had been contacted and gave permission to advertise the study. Participants who completed the study were entered into a prize draw to win either vouchers or mother/baby goods provided by various businesses who voluntarily contributed gifts to be offered to women involved in the study. The advert for the study contained a URL link to a registration form created using JISC survey software that provided additional information about the project and space for prospective participants to enter their

email address that can be used to send out subsequent questionnaires. The recruitment process ran for two months from 28<sup>th</sup> August 2019 to 9<sup>th</sup> October 2019 and a total of 671 women completed the registration form for this study. *Figure 5.1.* provides a breakdown of the sample generated for this study. Of the 671 women who registered interest to take part in the study, 349 completed the first survey during pregnancy. Of these 349 women, 263 then completed the second survey sent three weeks after participant's due date, indicating a 75.4% response rate at the second phase of the study. The final survey was sent 12 weeks after participant's due date. Of the 263 women who had completed both the first and second surveys, 226 completed the final survey. This indicates a response rate of 85.9% from second to third phase of the study and overall attrition rate of 35.2% from completion of the first survey to the end of the study. Three women declined to continue participation and were subsequently removed from the study and all other non-completers did not return responses to the online surveys. The final sample put forward for analysis was  $n=226$ .



*Figure 5. 1. Breakdown of sample size at each phase of study III*

### 5.3.3. Measures

#### 5.3.3.1. Time one: Predisposing factors

In addition to general demographic information, the following predisposing factors were measured during participants' third trimester of pregnancy (mean 32 weeks gestation):

#### PTS symptoms

The PTSD-Checklist (PCL5) measured trauma symptoms (Blevins et al., 2015). The PCL5 is a 20-item scale that describes trauma symptoms from DSM5 criteria for PTSD symptom clusters B, C, D and E (re-experiencing, avoidance, negative cognitions and hyperarousal). Each item requires a response on a 4-point scale ranging from 'Not at all' (zero) to 'Extremely' (four) and participants are requested to record any symptoms experienced in the last month from a previous stressful experience. Scoring of the PCL5 involves calculating a total symptom score for all 20 items. The PCL5 can also be used as a provisional diagnostic tool by calculating the number of symptom clusters endorsed by participants according to DSM5 guidelines: 1 ≤ re-experiencing symptom, 1 ≤ avoidance symptom, 2 ≤ negative cognition symptoms and 2 ≤ hyperarousal symptoms. The PCL5 showed excellent inter-item reliability with this sample ( $\alpha = .94$ ).

#### Depression and Anxiety Symptoms

Prenatal and postnatal depression was assessed using the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987). The EPDS is comprised of 10-items measured on a 4-point response scale whereby higher scores indicate risk of depression. Anxiety was measured with the Generalised Anxiety Disorder assessment (GAD-7) (Spitzer et al., 2006), a 7-item scale measured on a 4-point rating scale with higher scores indicative of greater anxiety. Both the EPDS and the GAD-7 were measured during pregnancy to assess prenatal depression and

anxiety, as well as at three-months postpartum to assess postnatal depression and anxiety. The EPDS showed excellent inter-item reliability with this sample when measured during pregnancy ( $\alpha=.90$ ) and at three-months postpartum ( $\alpha=.91$ ). Similarly, the GAD-7 showed excellent inter-item reliability with this sample when measured during pregnancy ( $\alpha=.91$ ) and at three-months postpartum ( $\alpha=.93$ ).

### Fear of Childbirth

The Wijma Delivery Expectancy Questionnaire (W-DEQ, version A) assessed fear of childbirth during pregnancy (Wijma et al., 1998). The W-DEQ-A is a 33-item scale that measures fear of childbirth on a 6-point scale ranging from 'not at all' (zero) to 'extremely' (five) by means of the woman's cognitive appraisals of expectations and experiences before birth. A higher score reflects a higher level of fear. The WDEQ is the most commonly used tool to assess fear of childbirth (Haines et al., 2015). The WDEQ-A showed excellent inter-item reliability with this sample ( $\alpha=.94$ ).

### Alexithymia

The Toronto Alexithymia Scale (TAS-20) was used to measure trait alexithymia (Bagby et al., 1994). The TAS-20 is a 20-item self-report measure for the assessment of alexithymia. Participants are asked how much they agree with each statement e.g. *'I find it hard to describe how I feel about people'* on a 5-point Likert scale. The TAS-20 total score can range from 20 to 100 with higher scores indicative of higher levels of alexithymic traits. In alignment with study objective two, this measure was also employed at three months postpartum. The TAS-20 showed good inter-item reliability with this sample when measured during pregnancy ( $\alpha=.88$ ) and at three-months postpartum ( $\alpha=.87$ ).

### Dissociation

Dissociative experiences were measured with the Dissociate Experiences Scale (DES) (Bernstein & Putnam, 1986). The DES comprises 28 items representing dissociative experiences such as: *'some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have just posted a letter or have just thought about posting it'*. Participants are required to score each item dependent on the percentage of time this happens to them on a 10-point scale ranging from 'never' (zero) to 'always' (one-hundred). Scores for the DES are totalled and then divided by the number of items on the scale (28) to calculate an average dissociative experience score. Higher scores on the DES indicate a greater degree of dissociation. The DES showed excellent inter-item reliability with this sample ( $\alpha=.91$ ).

### Desirability of Control

The Desirability of Control scale (DC) (Burger & Cooper, 1979) was used to measure trait desirability of control. The DC is a 20-item scale with a 7-point response scale ranging from *'does not apply to me at all'* (one) to *'always applies to me'* (seven) and consists of items such as: *'I prefer a job where I have a lot of control over what I do and when I do it'*. High scores on the DC signify a strong desire for control over the events in one's life. The DC showed acceptable inter-item reliability with this sample ( $\alpha=.79$ ).

#### *5.3.3.2. Time two: Birth characteristics*

The following factors surrounding the birth experience were measured at 3-weeks postpartum:

### Obstetric Intervention

Level of medical intervention experienced during birth was measured with the Intrapartum Intervention Score (IIS) (Clement et al., 1999). Women selected the obstetric procedures they experienced on a 19-item list that includes Forceps/Ventouse Delivery, Episiotomy, Internal Monitoring etc. and the total level of intervention was generated from the weighted sum of pre-calculated scores for each item.

### Perceived Support and Control

Perceived level of support and control was measured using the Support and Control in Birth scale (SCIB) (Ford et al., 2009). The SCIB is a 33-item scale with a 5-point Likert scale ranging from '*Agree Completely*' (five) to '*Disagree Completely*' (one). The SCIB comprises three subscales; the first consists of 12 items measuring perceived staff support during birth. The second subscale contains 10-items measuring perceived level of internal control during birth, (e.g. '*I felt my body was on a mission that I could not control*') and the final subscale comprises 11-items relating to perceived level of external control during birth, (e.g. '*I had control over the decisions that were made*'). Higher scores on the SCIB scale reflects greater perceived support and control during birth. All three subscales of the SCIB showed good inter-item reliability with this sample (*Staff Support:  $\alpha=.91$ ; Internal Control:  $\alpha=.87$  and External Control:  $\alpha=.91$* ).

### State dissociation

The Peritraumatic Dissociative Experiences Questionnaire (PDEQ) was employed to measure the extent of dissociation during labour and birth (Marmar et al., 2004). The PDEQ is a 10-item scale requiring responses on a 5-point Likert scale ranging from '*Not at all true*' (one) to '*Extremely true*' (five) with higher scores reflecting greater perinatal dissociation. Items

included: *'I felt as though I were a spectator watching what was happening to me, as if I were floating above or observing as an outsider'*. The PDEQ showed good inter-item reliability with this sample ( $\alpha=.88$ ).

#### Postnatal trauma symptoms

Postnatal trauma symptoms were measured at 3-weeks and 3-months postpartum using the City Birth Trauma Scale (City BiTS) (Ayers et al., 2018). The City BiTS is a 29-item questionnaire to measure trauma symptoms from childbirth specifically, in accordance with all DSM5 criteria for PTSD (A-H). The City BiTS measures trauma symptoms experienced in the past week on a 4-point scale ranging from 'Not at all' (zero) to 'five or more times' (three). Scoring of the City BiTS involves generating a total score for all trauma symptoms pertaining to symptom clusters B, C, D and E of DSM5 criteria (re-experiencing; avoidance; negative cognitions/mood and hyperarousal). The range of total symptom scores are between 0-60. The total score can also be separated into birth-related trauma symptoms and general PTS symptoms as the first ten items make specific reference to childbirth, e.g. *'feeling tense or anxious when reminded of the birth'*. Whereas the latter 10 items refer to trauma symptoms generally, e.g. *'Feeling detached from other people'*. The City BiTS can also be used as a provisional diagnostic measure of PTSD when all eight DSM5 criteria are endorsed. The items pertaining to symptom clusters in the CITY-BiTS scale showed excellent inter-item reliability with this sample at three-weeks ( $\alpha=.92$ ) and at three-months postpartum ( $\alpha=.92$ ).

#### *5.3.3.3. Time three: Postnatal symptoms*

The following factors regarding symptoms of postnatal psychopathology were measured at 3-months postpartum:



#### Postnatal trauma symptoms

(See *Section 5.3.3.2.* for a detailed description of the City BiTS scale).

#### Alexithymia symptoms

(See *section 5.3.3.1.* for a detailed description of the TAS-20).

#### Postnatal depression and anxiety symptoms

(See *section 5.3.3.1.* for a detailed description of the EPDS and the GAD-7).

### **5.3.4. Procedure**

The study advert contained a link to an online registration form that allowed prospective participants to provide their name, email address, due-date and country of residence.

Participants who completed the registration form were entered into an anonymised database that formulated a unique participant ID number for each individual sign-up. Once participants had registered for the study, an automated email was sent containing a URL link to the first survey embedded with a 'token' with the participant's unique ID number (time one). The second survey was emailed to participants at three weeks after their due date with the same embedded token (time two) and the final survey was emailed to participants at 12 weeks postpartum (time three). Participants were provided with a study brief and a consent page at the beginning of each survey. At each time point, if the questionnaire was not returned after two weeks, a reminder email was sent containing the questionnaire URL link.

The study was approved by the Faculty of Health and Human Sciences at the University of Plymouth, (*Reference: 18/19-1038*).

### 5.3.5. Missing Data

Randomly missing data were replaced with the individual's mean score for that particular subscale provided >90% of the subscale had been completed (Tabachnick et al., 2007). There was a total of 133 missing items that were replaced with participants' calculated mean, representing 0.2% of the total data set. This algorithm was employed for all scales excluding the Intrapartum Intervention Score scale (IIS) whereby a missing data item was computed as a negative endorsement. Three participants had one item-missing from the IIS and these three items were replaced with a negative endorsement, representing 0.07% of the total data for this subscale. Cases with <90% completion of a subscale ( $n=4$ ) were removed from analysis conducted on that particular subscale ( $n=2$ : *W-DEQ-A* and  $n=2$ : *SCIB*) but the remaining data from all completed scales was retained for analysis. These cases were examined for trends in birth experience. Of these four cases, two had planned Caesarean sections and one had an emergency Caesarean section. It is possible that the participants with a scheduled Caesarean section did not feel that the fear of childbirth scale applied to their circumstance. Similarly, it is reasonable to assume that some participants who underwent a Caesarean section may have felt that measures of control during birth were not applicable to their circumstance and so may have skipped this section of the survey.

### 5.3.6. Data analysis

Bivariate correlational analysis was used to explore the associations between predisposing factors, birth characteristics and total trauma symptom scores at three-months postpartum. Following this, hierarchical multiple regression analyses were conducted to generate a model with all measured variables inputted to predict variance in postnatal trauma symptoms at three-months postpartum. This model was then applied to postnatal depression and anxiety to

assess possible differences in aetiology of symptoms, as well as trauma symptoms separated by whether they are birth-related or general symptoms (*see Section 5.4.7.*).

## 5.4. Results

### 5.4.1. Sample Characteristics

Demographic information for participants are presented in *Table 5.1*. Participants were predominantly white (94.2%) and married or living with their partner (95.1%).

Approximately half of participants were first time mothers ( $n=110$ ). Fisher's Exact tests were conducted to test for differences in demographics between completers of all three aspects of the study and non-completers (completed first survey only). Age of participants was the only factor to reveal a significant difference between completers and non-completers ( $p=.04$ ).

However, post-hoc analysis revealed this to be due to three non-completers who fell into the age category of 42-47years. Removal of these three participants reduced the difference in age between groups to non-significance ( $p=.21$ ).

*Table 5. 1. Sample characteristics from demographic information and mode of delivery (N=226)*

Sample Characteristics	Frequency (%)
Age	
18-23 years	14 (6.2%)
24-29 years	65 (28.8%)
30-35 years	110 (48.7%)
36-41 years	37 (16.4%)
Relationship Status	
Single or Separated	4 (1.7%)
Not Living with Partner	7 (3.1%)
Married/Cohabiting	215 (95.1%)
Ethnicity	
Asian or Asian British	3 (1.3%)
Mixed	7 (3.1%)
Other Ethnicity Group	3 (1.3%)
White	213 (94.2%)
Parity	
Primiparous	110 (48.7%)
Multiparous	116 (51.3%)
Caesarean Section	
Planned Section	23 (10.2%)
Emergency Section	37 (16.4%)

### 5.4.2. Trauma Symptoms

Based on PCL5 scores measured during their third trimester of pregnancy, 23 women (10.2%) reported PTS symptoms from a previous stressful experience that met the DSM-5 criteria for symptom clusters B, C, D and E: re-experiencing; avoidance; negative cognitions and hyper-arousal. Four out of these 23 women also met full diagnostic criteria for postnatal PTSD at three months postpartum. In total, at three months postpartum, 12 women (5.3%) met full diagnostic criteria for PTSD related to childbirth (symptom clusters A-H on the City BiTS scale). The mean trauma symptom score at three months postpartum was  $M=11.42$ , ( $SD=11.2$ ). This was comparable to mean symptom scores at three-weeks postpartum ( $M=10.8$ ,  $SD=11.38$ ). The symptom profile of PTSD related to birth at three-weeks and three-months postpartum, and trauma symptoms reported during pregnancy, are presented in *Table 5.2*. In addition to the City BiTS to measure postnatal trauma symptoms, women were asked whether they experienced their birth as traumatic. At three-months postpartum, 48 women (21.2%) reported their birth to have been traumatic.

Table 5. 2. PTSD symptom profile in pregnancy (PCL5) and postnatal PTSD symptoms (City BiTS) scale at three weeks and three months postpartum (N=226).

	Third-trimester of pregnancy (PCL5) N (%)	Three weeks postpartum (City BiTS) N (%)	Three months postpartum (City BiTS) N (%)
Criterion A			
Perceived threat of injury	-	36 (15.9%)	37 (16.4%)
Perceived threat of death	-	40 (17.7%)	34 (15%)
Symptom Clusters			
B: Re-experiencing ( $\geq 1$ )	68 (30.1%)	114 (50.4%)	96 (42.5%)
C: Avoidance ( $\geq 1$ )	49 (21.7%)	49 (21.7%)	47 (20.8%)
D: Negative Cognitions ( $\geq 2$ )	57 (25.2%)	126 (55.8%)	130 (57.5%)
E: Hyperarousal ( $\geq 2$ )	61 (27%)	122 (54%)	142 (62.8%)
PTSD Criteria			
F: Symptom duration ( $\geq 1$ month)	-	-	121 (53.5%)
G: Distress and Impairment ( $\geq 1$ )	-	92 (40.7%)	100 (44.2%)
H: Exclusion criterion (symptoms related to other medical reason)	-	13 (5.7%)	5 (2.2%)
Met all symptom clusters (B-E)	23 (10.2%)	39 (17.3%)	37 (16.4%)
Met all PTSD criteria (A-H)	-	-	12 (5.3%)

To examine the possibility that psychopathology during pregnancy may have contributed to the failure to complete subsequent postnatal surveys, Chi square tests were conducted to compare completion status and antenatal trauma, depression and anxiety symptom scores. There were no significant differences between completers ( $N=226$ ) and non-completers ( $N=126$ ) for trauma symptoms ( $\chi^2=58.10$ ,  $p=.29$ ), depression ( $\chi^2=28.91$ ,  $p=.27$ ) or anxiety ( $\chi^2=21.10$ ,  $p=.45$ ) measured antenatally.

### 5.4.3. Associations between predictors and postnatal symptoms

Bivariate correlation coefficients with postnatal trauma, depression, anxiety and alexithymia symptoms and obstetric and subjective birth experience are presented in Table 5.3. Two predictor variables (both measures of dissociation: DES and PDEQ) were positively skewed ( $>1.7$ ) with high kurtosis ( $>3.5$ ) and so correlations were performed using Spearman correlational analyses as a non-parametric alternative to Pearson correlations. Measures of

dissociation in non-clinical populations often present with data that is highly skewed as most people report relatively low levels of dissociative experiences (Wright & Loftus, 1999). The four participants with missing data were removed for this analysis and examination of Mahalanobis distance scores indicated one multivariate outlier, this participant was also removed from subsequent analysis. Therefore, the sample size put forward for the remaining analyses conducted is  $n=221$ .

Total scores from the City BiTS, measuring postnatal trauma at three-months partum, were significantly associated with all birth characteristics and predisposing factors measured during pregnancy, excluding desirability of control. Desirability of control did however share a significant negative correlation with postnatal depression, anxiety and alexithymia. There was also evidence of a weak positive correlation between desirability of control and level of obstetric intervention experienced. To determine whether this association could reflect a bias for delivery via Caesarean section, bivariate correlations were conducted with only women who reported a vaginal delivery, this reduced the correlation between desirability of control and level of obstetric intervention to non-significance ( $r(165)=.13, p=.10$ ).

Level of obstetric intervention experienced was significantly associated with state dissociation during birth and negatively correlated with perceived internal and external control but was not significantly associated with level of perceived support. Level of perceived internal control and dissociation during birth were significantly associated with all predisposing factors, excluding desirability of control. Perceived staff support and external control during birth were negatively correlated with three antenatal measures: trauma symptoms, alexithymia and fear of childbirth. All subjective characteristics during birth

significantly correlated with trauma, depression, anxiety and alexithymia symptoms at three-months postpartum.

A predisposition for alexithymia, measured during pregnancy, shared a positive correlation with trauma symptoms at three-months postpartum ( $r(221)=.49, p<.001$ ). Additionally, alexithymia measured at three-months postpartum presents a strong positive correlation with postnatal trauma symptoms ( $r(221)=.63, p<.001$ ). In alignment with study objective two, to test whether trauma symptoms at three months postpartum were more strongly associated with postnatal alexithymic symptoms compared to alexithymia during pregnancy, both correlation coefficients were transformed to z scores and compared (Steiger, 1980).

Comparison of both coefficients revealed a significantly stronger correlation between trauma symptoms and alexithymia symptoms at three-months postpartum, ( $z=-3.49, p<.001$ ). This supports the assumption that alexithymia presents as a functional response to trauma in line with PTS symptoms after childbirth (Badura, 2003). Bivariate correlations between all measures of psychopathology assessed at three-months postpartum share strong positive correlations, particularly between the measures used to assess postnatal depression and postnatal anxiety ( $r(221)=.86, p<.001$ ).



Table 5. 3. Spearman bivariate correlations between predisposing factors measured during pregnancy, subjective and obstetric birth experience measured at 3-weeks postpartum and postnatal psychopathology at three-months postpartum, (N=221).

	Birth Characteristics					3-Months Postpartum			
	Support (SCIB)	External control (SCIB)	Internal control (SCIB)	Dissociation (PDEQ)	Obstetric intervention (IIS)	PTS symptoms (City BiTS)	Depression (EPDS)	Anxiety (GAD7)	Alexithymia (TAS)
<b>3<sup>rd</sup> Trimester of Pregnancy</b>									
PTS symptoms (PCL5)	-.19**	-.14*	-.28***	.37***	-.04	.59***	.63***	.62***	.58***
Depression (EPDS)	-.10	-.10	-.26***	.23***	-.05	.48***	.60***	.57***	.51***
Anxiety (GAD7)	-.09	-.06	-.28***	.27***	-.07	.50***	.61***	.60***	.53***
Fear of childbirth (WDEQ-a)	-.17**	-.23***	-.26***	.24***	.10	.36***	.36***	.37***	.42***
Alexithymia (TAS)	-.20**	-.16*	-.24***	.22***	-.004	.49***	.51***	.45***	.72***
Trait dissociation (DES)	-.12	-.08	-.21***	.36***	-.01	.44***	.52***	.45***	.43***
Desirability of control (DC)	-.003	-.02	.05	.04	.16*	-.13	-.19**	-.18**	-.29***
<b>Birth Characteristics</b>									
Support (SCIB)	-								
External control (SCIB)	.53***	-							
Internal control (SCIB)	.22***	.43***	-						
Dissociation (PDEQ)	-.20**	-.39***	-.43***	-					
Obstetric intervention (IIS)	-.06	-.51***	-.31***	.30***	-				
<b>3-Months Postpartum</b>									
PTS symptoms (City BiTS)	-.25***	-.34***	-.44***	.44***	.15*	-	.77***	.78***	.63***
Depression (EPDS)	-.19**	-.21**	-.38***	.35***	.05		-	.86***	.67***
Anxiety (GAD7)	-.24***	-.23**	-.36***	.32***	.02			-	.62***
Alexithymia (TAS)	-.20**	-.19**	-.33***	.25***	.00				-

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

#### **5.4.4. Multiple regression analysis of factors related to postnatal trauma symptoms**

Prior to conducting a hierarchical multiple regression, the relevant assumptions of this statistical analysis were tested. Firstly, to account for skewed dissociation measures, the data were transformed by logarithm, which resulted in normal distribution. Regression analyses were performed on both the raw data and the transformed data. The results (in terms of significance of predictors and models) did not differ, so the analyses with the raw data are presented as it is conceptually more meaningful (Tabachnick et al., 2007). Inspection of variance inflation factors (VIFs) revealed multicollinearity between three predisposing variables: PTSD symptoms, depression and anxiety during pregnancy ( $VIF > 3.6$ ). As this study is principally concerned with trauma: depression and anxiety during pregnancy were removed from the model. Following this, there was no evidence of multicollinearity between any other variables ( $VIF < 2.25$ ). Analysis of standard residuals revealed four participants as outliers (Std. Residual  $> 3.29$ ) and so the data from these four participants were removed for the regression analyses. All four of these participants reported high levels of trauma symptoms at three-months postpartum ( $> 34$ ). Therefore, following the removal of these outliers, the sample size put forward for regression analysis was  $n = 217$ . The histogram of standardised residuals indicated that the data contained normally distributed errors and the scatterplot of standardised residuals showed that the data met the assumptions of homogeneity of variance and linearity.

A four-stage hierarchical multiple regression was conducted to predict variance in postnatal trauma symptoms at three-months postpartum. Previous trauma symptoms and fear of childbirth were inputted at stage one using forced entry, as these two factors have previously been reported as significant predictors of postnatal trauma (Garthus-Niegel et al., 2013). To test study objective one, the three exploratory predisposing variables (alexithymia, trait

dissociation and desirability of control) were then inputted at stage two using a stepwise method. Stepwise method was preferred due to the exploratory nature of these variables that have not been measured previously as predictors of postnatal trauma (Field, 2013). Level of obstetric intervention was entered at stage three and finally all subjective birth characteristics were entered at stage four using forced entry. Results from the regression are provided in Table 5.4.

Table 5. 4. Summary of hierarchical regression analysis on total postnatal trauma symptoms at three-months postpartum (N=217)

Model		<i>b</i>	<i>SE b</i>	<i>St. β</i>	<i>p</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
1						.42	-
	<b>PTS symptoms (PCL5)</b>	<b>.46</b>	<b>.05</b>	<b>.58</b>	<b>&lt;.001</b>		
	<b>Fear of childbirth (WDEQ-A)</b>	<b>.05</b>	<b>.03</b>	<b>.12</b>	<b>.04</b>		
2						.44	.02**
	<b>PTS symptoms (PCL5)</b>	<b>.39</b>	<b>.05</b>	<b>.49</b>	<b>&lt;.001</b>		
	Fear of childbirth (WDEQ-A)	.04	.03	.08	.17		
	<b>Alexithymia (TAS)</b>	<b>.17</b>	<b>.06</b>	<b>.19</b>	<b>.003</b>		
3						.46	.02**
	<b>PTS symptoms (PCL5)</b>	<b>.42</b>	<b>.05</b>	<b>.52</b>	<b>&lt;.001</b>		
	Fear of childbirth (WDEQ-A)	.03	.03	.06	.34		
	<b>Alexithymia (TAS)</b>	<b>.16</b>	<b>.06</b>	<b>.19</b>	<b>.004</b>		
	<b>Obstetric intervention (IIS)</b>	<b>.07</b>	<b>.03</b>	<b>.14</b>	<b>.006</b>		
4						.57	.11***
	<b>PTS symptoms (PCL5)</b>	<b>.32</b>	<b>.05</b>	<b>.40</b>	<b>&lt;.001</b>		
	Fear of childbirth	.01	.02	.02	.69		
	<b>Alexithymia (TAS)</b>	<b>.13</b>	<b>.05</b>	<b>.14</b>	<b>.01</b>		
	Obstetric intervention (IIS)	-.01	.03	-.02	.72		
	<b>Dissociation (PDEQ)</b>	<b>.26</b>	<b>.09</b>	<b>.16</b>	<b>.004</b>		
	<b>Support (SCIB)</b>	<b>-.13</b>	<b>.06</b>	<b>-.12</b>	<b>.05</b>		
	External control (SCIB)	-.12	.07	-.11	.10		
	<b>Internal control (SCIB)</b>	<b>-.17</b>	<b>.06</b>	<b>-.15</b>	<b>.007</b>		

Note. Significant independent variables are presented in bold.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

The hierarchical multiple regression revealed that at stage one, both PTS symptoms during pregnancy and fear of childbirth contributed significantly to the regression model, ( $F(2,214)=76.84, p<.001$ ) and accounted for 41.8% of the variance in postnatal trauma symptoms. At the next stage, alexithymia was the only exploratory variable to significantly improve the model and the introduction of alexithymia scores explained an additional 2.3%

variance in postnatal trauma symptoms, and this change was significant ( $F(1,213)=8.82$ ,  $p=.003$ ). The introduction of alexithymia also reduced the effect of fear of childbirth to non-significance. Adding obstetric intervention to the regression model explained an additional 1.9% variance in postnatal trauma symptom score and this change was also significant ( $F(1,212)=7.56$ ,  $p=.006$ ). The final model includes all subjective birth characteristics, the addition of these variables significantly improved the model and explained a further 11.1% variance in postnatal trauma symptoms ( $F(4,208)=13.52$ ,  $p<.001$ ). However, only perceived support, dissociation and internal control significantly contributed to the model. Level of external control did not independently improve the model. The introduction of subjective birth characteristics reduced the effect of obstetric intervention to non-significance. The overall model accounted for 57.2% of the variance in trauma symptoms at three-months postpartum.

#### **5.4.5. Testing indirect effects**

As demonstrated in the hierarchical regression analysis above, alexithymia was the only exploratory variable to independently contribute to the regression model. However, the bivariate correlational data suggest that trait dissociation also shares a moderate positive correlation with postnatal trauma symptoms ( $r(221)=.44$ ,  $p<.001$ ) (Table 5.3.). To test the hypothesis that trait dissociation may present an indirect effect on trauma symptoms via dissociation during birth, mediation analysis was conducted using the PROCESS macro for SPSS, (Hayes, 2017). A significant indirect effect of trait dissociation on postnatal trauma symptoms via perceived dissociation during birth was observed,  $\beta = 0.125$ ; 95% BCa CI [.062, .208], (Figure 5.2.).

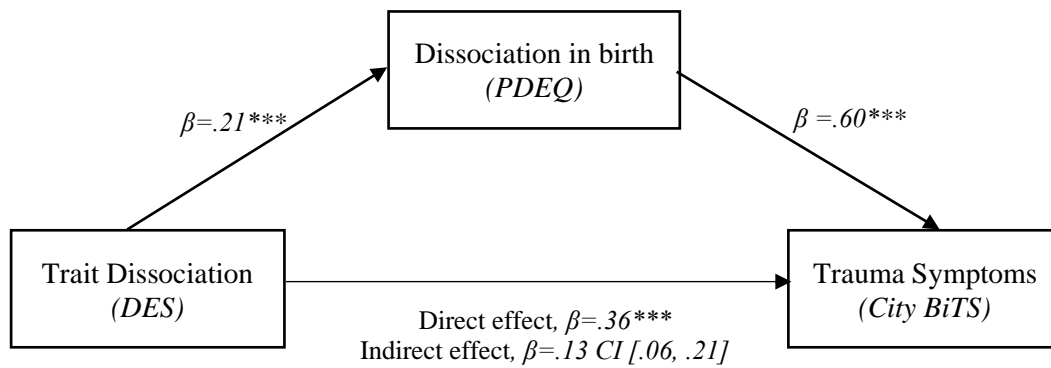


Figure 5. 2. Mediation model with beta coefficients for the relationship between trait dissociation (DES) and postnatal trauma symptoms (CityBiTS) as mediated by dissociation during birth (PDEQ).

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Desirability of control was the third and final exploratory predisposing factor. The correlational analyses suggest that greater desirability of control is associated with higher levels of intervention, however, there was no evidence of a significant association between desirability of control and postnatal trauma, therefore mediation analyses could not be conducted.

#### 5.4.6. Testing the model with postnatal depression and anxiety

Postnatal depression and anxiety were also measured alongside trauma symptoms at three-months postpartum. In reference to study objective four, to test whether the model was indicative of general postnatal psychopathology, or whether these variables are predictive of trauma specifically, the regression model was conducted for symptom scores from the EPDS and the GAD-7 separately. Analysis of standardised residuals from postnatal depression scores revealed one participant as a potential outlier (Std. Residual  $> 3.29$ ). This participant had a postnatal depression score of 25 (sample mean,  $M = 8.30$ ), and so the data from this participant was removed for the regression analysis, leaving a total sample size of  $n = 220$ .

*Table 5.5.* presents the output from the regression analysis with postnatal depression scores. For postnatal anxiety, there was also one participant with a standardised residual score greater than 3.29, this participant scored the maximum 21 on the GAD-7, indicative of high anxiety (sample mean,  $M=5.15$ ). Consequently, this participant was removed from analysis and the sample size put forward for regression was  $n=220$ . *Table 5.6.* presents the regression model with postnatal anxiety scores. Histograms of standardised residuals for both depression and anxiety scores indicated normal distribution of errors and the scatterplot of standardised residuals showed that the data met the assumptions of homogeneity of variance and linearity.

Both regression models present distinct differences in the pattern of predictive variables compared to the output model for trauma symptoms (*Table 5.4.*). For anxiety symptoms (*Table 5.6.*), none of the exploratory variables significantly improved the model, as such, the only predisposing variable to significantly predict postnatal anxiety was PTS symptoms during pregnancy ( $F(2,217)=87.28, p<.001$ ) which, on its own, explained 44.6% variance. The only birth characteristics to significantly improve the model were perceived support and internal control ( $F(4,212)=4.53, p=.002$ ). Addition of these variables explained a further 4.3% of variance in anxiety symptoms. For postnatal depression, (*Table 5.5.*), PTS symptoms and fear of childbirth both presented as significant predictors and explained 43.3% variance, ( $F(2,217)=81.67, p<.001$ ). Two exploratory variables, alexithymia and dissociation, significantly improved the model and the addition of these two variables increased explained variance in depression symptoms to 46.7%. However, after inputting subjective birth factors, the only variables to significantly, independently predict postnatal depression were PTS symptoms and trait dissociation measured during pregnancy and perceived internal control in birth. Taken together, the final model predicted 50.2% variance in postnatal depression.

Table 5. 5. Summary of hierarchical regression analysis on total postnatal depression symptoms at three-months postpartum (N=220)

Model		<i>b</i>	<i>SE b</i>	<i>St. β</i>	<i>p</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
1						.43	-
	<b>PTS symptoms (PCL5)</b>	<b>.26</b>	<b>.03</b>	<b>.56</b>	<b>&lt;.001</b>		
	<b>Fear of childbirth (WDEQ-A)</b>	<b>.04</b>	<b>.02</b>	<b>.17</b>	<b>.004</b>		
2						.46	.03***
	<b>PTS symptoms (PCL5)</b>	<b>.21</b>	<b>.03</b>	<b>.49</b>	<b>&lt;.001</b>		
	<b>Fear of childbirth (WDEQ-A)</b>	<b>.04</b>	<b>.01</b>	<b>.16</b>	<b>.006</b>		
	<b>Dissociation (DES)</b>	<b>.12</b>	<b>.04</b>	<b>.20</b>	<b>.001</b>		
3						.47	.01*
	<b>PTS symptoms (PCL5)</b>	<b>.19</b>	<b>.03</b>	<b>.41</b>	<b>&lt;.001</b>		
	<b>Fear of childbirth (WDEQ-A)</b>	<b>.03</b>	<b>.02</b>	<b>.13</b>	<b>.03</b>		
	<b>Dissociation (DES)</b>	<b>.09</b>	<b>.04</b>	<b>.15</b>	<b>.03</b>		
	<b>Alexithymia (TAS)</b>	<b>.07</b>	<b>.03</b>	<b>.14</b>	<b>.04</b>		
4						.47	.01
	<b>PTS symptoms (PCL5)</b>	<b>.20</b>	<b>.03</b>	<b>.43</b>	<b>&lt;.001</b>		
	<b>Fear of childbirth (WDEQ-A)</b>	<b>.03</b>	<b>.02</b>	<b>.12</b>	<b>.05</b>		
	<b>Dissociation (DES)</b>	<b>.09</b>	<b>.04</b>	<b>.15</b>	<b>.02</b>		
	<b>Alexithymia (TAS)</b>	<b>.07</b>	<b>.03</b>	<b>.14</b>	<b>.04</b>		
	Obstetric intervention (IIS)	.02	.01	.07	.15		
5						.50	.03*
	<b>PTS symptoms (PCL5)</b>	<b>.18</b>	<b>.03</b>	<b>.39</b>	<b>&lt;.001</b>		
	Fear of childbirth	.02	.02	.09	.11		
	<b>Dissociation (DES)</b>	<b>.08</b>	<b>.04</b>	<b>.13</b>	<b>.05</b>		
	Alexithymia (TAS)	.06	.03	.12	.06		
	Obstetric intervention (IIS)	.01	.02	.02	.70		
	Dissociation (PDEQ)	.24	.06	.04	.49		
	Support (SCIB)	-.02	.04	-.03	.60		
	External control (SCIB)	.03	.04	.04	.55		
	<b>Internal control (SCIB)</b>	<b>-.12</b>	<b>.04</b>	<b>-.18</b>	<b>.002</b>		

Note. Significant independent variables are presented in bold.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 5. 6. Summary of hierarchical regression analysis on total postnatal anxiety symptoms at three-months postpartum (N=220)

Model		<i>b</i>	<i>SE b</i>	<i>St. β</i>	<i>p</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$
1						.45	-
	<b>PTS symptoms (PCL5)</b>	<b>.26</b>	<b>.02</b>	<b>.62</b>	<b>&lt;.001</b>		
	Fear of childbirth (WDEQ-A)	.02	.01	.09	.12		
2						.45	.003
	<b>PTS symptoms (PCL5)</b>	<b>.26</b>	<b>.02</b>	<b>.63</b>	<b>&lt;.001</b>		
	Fear of childbirth (WDEQ-A)	.02	.01	.08	.17		
	Obstetric intervention (IIS)	.01	.01	.06	.28		
3						.49	.04**
	<b>PTS symptoms (PCL5)</b>	<b>.23</b>	<b>.03</b>	<b>.57</b>	<b>&lt;.001</b>		
	Fear of childbirth	.01	.01	.05	.37		
	Obstetric intervention (IIS)	.01	.02	.02	.72		
	Dissociation (PDEQ)	.01	.05	.02	.77		
	<b>Support (SCIB)</b>	<b>-.08</b>	<b>.04</b>	<b>-.15</b>	<b>.02</b>		
	External control (SCIB)	.03	.04	.05	.46		
	<b>Internal control (SCIB)</b>	<b>-.09</b>	<b>.04</b>	<b>-.15</b>	<b>.01</b>		

Note. Significant independent variables are presented in bold.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

#### **5.4.7. Separating general postpartum trauma symptoms and birth-related trauma**

The City BiTS measure of postnatal trauma symptoms can be separated into birth-related trauma symptoms and general trauma symptoms. The first ten items relate to re-experiencing, avoidance and negative cognitions with specific reference to the birth experience. Whereas the latter ten items refer to trauma symptoms pertaining to negative cognitions and hyperarousal more generally, without specific reference to the birth. The general trauma symptom scores were normally distributed and so the model could be applied to these. The results showed that alexithymia and trauma symptoms during pregnancy and internal control during birth were the only significant independent predictors to explain 45.7% of the variance in general trauma symptoms at three-months postpartum ( $F(8,212)=22.30, p<.001$ ). However, the birth-related symptoms presented with high skew (2.24) and high kurtosis (5.02) and so a regression analysis could not be performed without removing nine participants who all scored higher than the average symptom score (Std. residuals > 3.29). Removal of these nine participants as outliers established homogeneity of variance and so the regression analysis was conducted with the remaining sample ( $n=212$ ). Analysis revealed no significant improvement to the model from any of the three exploratory variables. PTS symptoms during pregnancy was retained as a significant predictor in the final predictive model alongside three birth characteristics: perceived dissociation; external control and support. Together, these factors predict 49.6% variance in birth-related postnatal trauma symptoms at three-months postpartum, ( $F(7,204)=28.66, p<.001$ ).



## 5.5. Discussion

The findings from this study provide further evidence that childbirth can be a traumatic experience for many women. Approximately 21% of women in this survey reported their childbirth experience to have been traumatic. This falls within the estimated rate of incidence of experiencing birth as traumatic, which is predicted to be appraised by 20-30% of mothers (Ayers, 2004; Soet et al., 2003). Additionally, 5% of the women surveyed presented with postnatal trauma symptoms that met the full DSM-5 criteria for PTSD. This is in alignment with figures from a recent review suggesting prevalence rates of postnatal PTSD to be between 4-6% (Dekel et al., 2017). In the current study, women who reported PTS symptoms during pregnancy were included in all analyses. Therefore, it is possible that this prevalence rate also contains women who present with ongoing PTSD (whereby delivery may exacerbate symptoms or transfer the focus of PTS symptoms onto birth) or recurrent PTSD (whereby the birth experience reactivates PTS symptoms from a previous trauma) (Alcorn et al., 2010; Ayers, 2004). Nevertheless, eight out of the 12 women who met full DSM-5 criteria for postnatal PTSD did not meet the diagnostic criteria for PTSD during pregnancy. This suggests that for at least two thirds of these women, it is likely that childbirth contributed to the development of trauma symptoms at three-months postpartum. Incorporating a scale specifically relating trauma symptoms to childbirth should also improve accuracy of incidence rates for postnatal PTSD from childbirth, as opposed to more general measures of PTS symptoms that could be attributed to other events (Ayers et al., 2018).

This study aimed to generate a model to predict the variance in postnatal posttraumatic stress symptoms presented by mothers at three-months postpartum. The model consisted of factors measured both during pregnancy and within the first month after having a baby. The final

model contained three predisposing variables: posttraumatic stress symptoms during pregnancy, fear of childbirth and alexithymia, as well as three characteristics of the birth. Taken together, these factors explained 57% of the variance in postnatal trauma symptoms at three-months postpartum. With reference to study objective one, alexithymia was the only exploratory predisposing variable to predict postnatal trauma and significantly contributed to the explained variance in PTS symptoms above and beyond fear of childbirth, obstetric intervention and perceived external control during birth. PTS symptoms during pregnancy was the only other predisposing factor to predict postnatal trauma.

Alexithymia is the inability to describe, process or express emotions, (Taylor et al., 1999). Higher levels of alexithymia are consistently associated with higher levels of posttraumatic stress (Evren et al., 2010; Hyer et al., 1990; Zlotnick et al., 2001). There is a theoretical link between alexithymia and the avoidance/emotional numbing component of the PTSD symptom profile (Badura, 2003). High concordance rates between PTSD and alexithymia among traumatised individuals presents a complicated overlap that makes it difficult to discern whether alexithymia reflects a functional response to trauma, in line with detachment symptoms from PTSD, or a separate construct that may predispose an individual to develop trauma symptoms. To explore this relationship further, and in alignment with objective two of the current study, alexithymia was measured at two time-points, during pregnancy and at three-months postpartum. The findings from this study suggest that alexithymia presents as both a predisposing vulnerability factor for the development of postnatal trauma, as well as a construct that features alongside PTS symptoms at three-months postpartum. The regression model presents alexithymia as an independent predictor of postnatal trauma, even after accounting for trauma symptoms during pregnancy. This suggests that alexithymia is an independent construct to overall PTS symptoms. Furthermore, the findings from the

regression analyses with postnatal depression and anxiety, suggest that the predisposition of high alexithymic traits poses as a vulnerability to postnatal trauma rather than a predictor of general postnatal psychopathology. This finding is supported by recent longitudinal research amongst expectant parents in Finland, whereby alexithymia did not present as a significant predictor for postnatal depression or anxiety in mothers (Karukivi et al., 2015). Interestingly, alexithymia did present as a predictor of postnatal anxiety amongst fathers in this Finnish study, but the association with trauma was not investigated. Qualitative postnatal trauma research has suggested screening for alexithymic traits during pregnancy (Peeler et al., 2018) and the findings from the current study support this suggestion. The interaction between alexithymia and fear of childbirth suggests that a predisposition to alexithymic traits during pregnancy may be a stronger predictor of postnatal trauma compared to fear of childbirth. Subsequently, incorporating assessments of alexithymia and PTS symptoms during antenatal appointments could assist in the identification of women who may be more vulnerable to experiencing trauma following childbirth.

The relationship between alexithymia and trauma symptoms was also significantly stronger at three-months postpartum compared to the correlation between alexithymic traits present during pregnancy and postnatal trauma symptoms. This suggests that alexithymia may be a common characteristic amongst traumatised mothers and supports the theory that alexithymia presents as a feature of PTS symptoms in response to a traumatic experience (Badura, 2003; Eichhorn et al., 2014). Subsequently, therapeutic interventions for postnatal PTSD should be sensitive to the presence of alexithymia in women experiencing trauma after childbirth. Previous research suggests that alexithymic patients are more likely to concentrate on somatic symptoms as opposed to psychological factors (Saariaho et al., 2016) and a recent review supports mindfulness-based interventions as an effective treatment in reducing alexithymic

symptoms (Norman et al., 2019). It may be useful to take both of these factors into account when caring for women presenting with birth trauma.

Both alexithymia and a predisposition to dissociative experiences may reflect the symptomology of a woman who has experienced prior trauma. Previous research outside of perinatal mental health suggests that both of these are characteristic in the symptom profiles from women who have experienced childhood sexual abuse (McLean et al., 2006). Even though the regression analysis in the current study presents alexithymia and PTS symptoms as separate constructs that independently predict variance in postnatal trauma, they may both reflect features of a post-traumatic response to a prior trauma. Further research is warranted to investigate the predictive value of asking women about their trauma history as a more practical approach to screening during antenatal appointments that does not rely on large sets of questionnaires. This will also help to elucidate whether it is unresolved trauma as opposed to a history of trauma alone that leaves women vulnerable to the appraisal of birth as traumatic and the development of PTS symptoms postpartum.

Alongside a predisposition for alexithymia and PTS symptoms during pregnancy, the regression model suggests that certain birth characteristics are more strongly associated with postnatal trauma symptoms than others are. With reference to study objective three, the only birth characteristics to contribute significantly to the final model were perceived lack of internal control, perceived dissociation and perceived lack of staff support. Level of obstetric intervention experienced did independently predict trauma symptoms but this association was removed once subjective birth characteristics were inputted into the model. This further supports the assumption that the subjective birth experience is more influential over postnatal trauma compared to the obstetric experience (Ayers et al., 2016; Dekel et al., 2017).

Interestingly, lower perceived internal control and greater dissociation during birth presented

as stronger contributors to the model than external control and staff support. Feeling in control in labour and birth has been attributed to greater satisfaction and a generally more positive appraisal of childbirth (Meyer, 2013). Although, the meaning of control has varied across studies and quantitative research rarely makes the distinction between external and internal control during birth (Wallston, 1989). However, qualitative research suggests that feeling in control over one's own behaviour and coping mechanisms, as well as feeling in control over what healthcare professionals are doing during birth, are more important than having complete autonomy (Green, 1999). It is suggested that having the capacity to relinquish control to healthcare professionals can enhance one's sense of internal control during birth, but this relies upon a trusting and supportive environment (O'Hare & Fallon, 2011). This may explain the associations between these three factors, as well as the greater significance attributed to support and external control when regarding birth-related trauma symptoms separately to overall trauma. Perceiving a lack of support and external control may elicit a traumatic stress response whereby women have re-experiencing and avoidance symptoms following the birth (Ayers, 2004), but are not so influential in the development of the full PTSD symptom profile.

An interesting finding from this study is the significance of internal control during birth as an independent predictor for general postnatal trauma symptoms, depression and anxiety at three-months postpartum. Internal control was the only birth characteristic to present as a significant predictor for all three measures of psychopathology at three-months postpartum. Indeed, the only outcome measure not predicted by perceived level of internal control was birth-related trauma symptoms. These findings suggest a possible link between general psychopathology and a lack of internal control during birth. Foundational research into the relationship between control and anxiety suggests that when an individual does not perceive

or expect to have control over the onset or offset of a stressor, they are likely to experience more anxiety and arousal as a result (Bowers, 1968). It is possible that women who have experienced prior trauma may elicit a ‘learned helplessness’ response when faced with future life events that could be deemed uncontrollable, such as childbirth (Maier & Seligman, 1976). Such women may be predisposed to dissociate their mind from bodies in reaction to labour and delivery and consequently lose internal control. Therefore, measuring level of perceived internal control during birth as part of a follow-up aftercare assessment could provide a useful indicator for vulnerability to postnatal psychopathology.

Together with internal control, level of perceived dissociation was also found to significantly contribute to the predictive model for postnatal trauma symptoms at three-months postpartum. The separate regression models for birth-specific trauma and general trauma symptoms suggests perinatal dissociation to have greater influence over symptoms associated with the birth (e.g., re-experiencing and avoidance symptoms). This finding is in line with general trauma literature which theorises that dissociating during a traumatic event interferes with appropriate contextual encoding of the trauma memory leaving it vulnerable to external triggers and evoke a sense of reliving (Brewin et al., 2010). Olde et al., (2005) published the first longitudinal study to prospectively measure perinatal dissociation in relation to postnatal trauma. They found perinatal dissociation to be predictive of PTS symptoms at three-months postpartum beyond age, parity and mode of delivery. Because of its association with postnatal trauma, it has been suggested that women who show signs of dissociation during birth could be flagged for postpartum follow-up to assess for possible PTSD (Ayers et al., 2016; Zambaldi, Cantilino, Farias, et al., 2011). Likewise, my study supports this link but also suggests an indirect association between trait dissociation and greater risk of perinatal dissociation during childbirth. Therefore, in addition to identification of perinatal dissociation

during birth, a more preventative approach could be to identify pregnant women who exhibit a predisposition for dissociative experiences as potentially more vulnerable to postnatal trauma. Previous longitudinal research suggests that dissociation during childbirth is associated with greater pain and poorer perceived support and information provided during delivery (Van Son et al., 2005). Assessing for a predisposition for dissociative experiences antenatally can make staff aware of potentially at-risk women and work to instil a greater sense of support and control before and during labour and birth (Haagen et al., 2015).

A predisposition for dissociative experiences during pregnancy also presents as a significant independent predictor of postnatal depression at three-months postpartum, irrespective of perinatal dissociation experienced during childbirth. Therefore, assessing for dissociative tendencies antenatally may also contribute to the identification of women who are more vulnerable to develop depression after childbirth. There is high comorbidity between postnatal depression and postnatal trauma (White et al., 2006) yet, the results from the separate regression models suggest distinct differences in the aetiology of symptoms for postnatal depression and anxiety compared to postnatal trauma. Regarding study objective four, alexithymia appears to be associated with postnatal trauma above and beyond postnatal depression or anxiety, whereas a predisposition for dissociation appears to be directly predictive of postnatal depression only. Posttraumatic stress symptoms during pregnancy emerged as a significant predictor for all three models, however, it is important to emphasise the high multicollinearity between depression, anxiety and posttraumatic stress measured antenatally. As the current study focuses on postnatal trauma, it is difficult to make assumptions about the predictive pathways for postnatal depression and anxiety from this data. Nevertheless, it can be assumed that general psychopathology during pregnancy is associated with postnatal psychopathology. Greater importance appears to be afforded to the

subjective birth experience, (namely level of internal control, perceived support and perinatal dissociation) as well as a predisposition for alexithymic traits, for postnatal trauma rather than postnatal depression.

The final exploratory factor measured during pregnancy in this study was level of general desirability of control. Desirability of control was not found to be associated with postnatal trauma symptoms or any of the subjective characteristics of birth measured. This suggests that the perception of control during birth has a significant impact on postnatal trauma symptoms irrespective of the importance afforded to control antenatally. This finding supports previous research that contradicts the stereotype that women who desire greater control, or have high expectations for their birth, are more likely to appraise their birth as a negative experience (Green et al., 1990). On the contrary, the correlational data suggests that desirability of control appears to have a negative relationship with postnatal alexithymia, anxiety and depression, indicative of lower desirability of control associated with postnatal psychopathology. This trend is reported in previous longitudinal research that found lower expectations of control in birth to be associated with poorer psychological outcomes, in terms of both lower satisfaction with the birth and lower postnatal emotional well-being (Green et al., 1990). Indeed, from this study, the only variable that is positively associated with desirability of control is level of obstetric intervention. However, this relationship was reduced to non-significance when participants who had their baby via Caesarean section were removed from analysis. This suggests a possible link between desirability of control and delivery via Caesarean section, but further research is warranted to verify this.

#### **5.5.1. Strengths and Limitations**



The use of a series of online questionnaires to measure postnatal trauma prospectively, allows for a larger and broader cohort of women to participate in perinatal research. Due to the longitudinal nature of this study, and the period of time required for data collection, attrition rates were expected to be high. The online accessibility of the surveys may have contributed to the retention of some participants (Thompson et al., 2003), however, reliance on self-report measures of birth interventions (as opposed to hospital records) means that we cannot determine whether non-completers of the postpartum surveys were more likely to have experienced a specific type of birth (e.g. operative birth), or experience greater postnatal difficulties.

It is important to note that depression and anxiety symptoms were measured during pregnancy but were not included in the regression models due to high multicollinearity with posttraumatic stress symptoms. Previous perinatal research has documented comorbidity between depression, anxiety and PTSD in pregnancy (Dikmen-Yildiz et al., 2017a) and so high correlations between these three variables were expected. Furthermore, as all three measures were inputted into the same online questionnaire completed during pregnancy, there is the additional risk for common-method-bias (Ned, 2015). When included into the regression model, both antenatal depression and anxiety presented no significant contribution to predict the variance in trauma symptoms at three-months postpartum. However, previous research dictates that both depression and anxiety symptoms during pregnancy are important, direct predictors of postnatal trauma (Garthus-Niegel et al., 2013). Therefore, it was assumed that the non-significance in the current study is reflective of a Type II error due to multicollinearity (Martz, 2013) which informed the decision to remove both variables from analyses.

The potential for common-method bias should also be considered when regarding the significantly higher correlation between alexithymia at three-months postpartum and postnatal trauma symptoms. Similarly, both measures were included into the same online questionnaire completed at three-months postpartum. However, this bias should not present as an issue in the association between alexithymic traits presented during pregnancy and postnatal trauma symptoms at three-months postpartum. It is also reasonable to assume that women who experience trauma symptoms after having a baby would also present with alexithymic traits due to the commonalities between alexithymia and detachment symptoms from PTSD discussed previously (Badura, 2003; Eichhorn et al., 2014).

Finally, despite there being few differences between women who completed all aspects of the study and women who only completed the first survey during pregnancy, previous longitudinal research document that certain demographics are less likely to engage in research. For example, Alcorn et al., (2010) found women from lower socio-economic status to be more highly represented amongst non-completers, a characteristic that was not measured in the current study. Additionally, the proportion of women from non-white ethnic groups was low and not representative of national figures for ethnicity of women giving birth in the UK (NHS, 2019a). This is of particular relevance as recent reports have emphasised that women from black and minority ethnic backgrounds are disproportionately represented in maternal mortality rates across the UK. Black women have five times greater risk of dying in pregnancy or up to six-weeks postpartum compared to white women (MBRRACE-UK, 2019). These figures highlight the need for perinatal research to make greater efforts to engage with women from minority ethnic backgrounds and from lower socio-economic backgrounds. Subsequently, appropriate caution would be wise to take when regarding this sample as representative of the population of pregnant women in the UK.

### 5.5.2. Conclusions

The current study presents a predictive model of trauma symptoms at three-months postpartum from measures taken during pregnancy and in the first month after birth. The study identified a bi-directional role of alexithymia in postnatal trauma. Alexithymia is not only a feature of post-trauma response, but also a vulnerability to the development of postnatal trauma symptoms, independent of existing PTS symptoms. A predisposition to dissociative experiences is associated with trauma symptoms postpartum, but also has an indirect relationship with postnatal trauma via dissociation during the birth. These findings may reflect an increased vulnerability to postnatal PTS symptoms amongst women who have experienced prior trauma. The predictive value of these predisposing factors emphasises the utility in antenatal screening for women who may be at risk of developing trauma after childbirth.

The current study also presents the subjective experience of birth to be a stronger predictor of postnatal trauma than obstetric experience. Namely, perceived support, internal control and dissociation during birth are all predictive of postnatal PTS symptoms. Regression analyses for postnatal trauma, anxiety and depression suggest separate aetiological pathways for these three mental health problems. However, internal control during birth is predictive of all three measures. This suggests that internal control during birth may be indicative of general postnatal psychopathology, whereas perceived external control, dissociation and support during birth are more strongly related to birth-related trauma symptoms specifically. Therefore, a supportive birthing environment, whereby the mother has a sense of control over her birth, could reduce the likelihood of re-experiencing and avoidance symptoms postnatally.

## CHAPTER SIX

### BIRTH TRAUMA FROM THE PERSPECTIVE OF PERINATAL COUNSELLORS

*“They’ve survived, they’re ok now, the baby’s ok now, but they’re still suffering with flashbacks, or can’t sleep, or can’t eat, or can’t go out, or absolutely petrified of a future pregnancy, because what if it happens again?”*

*Study Participant*

## 6.1. Preface

For the final empirical chapter of my thesis, I will discuss my final qualitative study with counsellors from a local perinatal charity. The three studies outlined in my thesis so far have documented either quantitative or qualitative research with mothers directly. Each research study, in some way, emphasised the significance of the mother-healthcare professional relationship in the appraisal of birth as traumatic and/or the development of PTS symptoms following birth. Subsequently, it seemed fitting that my final empirical chapter outlines a focus group study with perinatal counsellors to discuss birth trauma from the perspective of healthcare professionals. Presenting a healthcare professional perspective provided information regarding the effectiveness of current maternity care practice and appropriateness of future directions for research and practice that I discuss in more detail in the following chapter of this thesis (*Chapter Seven*). For the study discussed in this chapter (*Study IV*), I developed a topic guide template combining past and current experience in working with parents affected by birth trauma as well as directions for future practice. I then organised a focus group meeting with perinatal counsellors from a local charity and conducted the meeting as the focus group moderator. The focus group design afforded a more in-depth understanding of perinatal counsellors' experience with birth trauma to gain further insight into the consequences of traumatic childbirth for parents attending counselling, as well as changes to maternity practice and addressing changes that could be made to improve maternity care in the future.

## 6.2. Introduction to Study IV

The results from Study I and Study III of this thesis present between 21-29% of women to have considered their birth traumatic, with approximately 5-8% of women experiencing clinically relevant PTSD symptoms after birth (*see Chapters Three and Five*). With over 730,000 live births throughout the UK last year, the number of mothers who may require postnatal mental health support is considerable (ONS, 2020). Perinatal mental health is a societal issue affecting one in five women in the UK with an estimated cost of £1.7 billion to NHS and social services each year (Bauer et al., 2014). A recent national report revealed suicide as the leading cause of maternal deaths occurring within the first year after giving birth (MBRRACE-UK, 2019), and it is estimated that in approximately 40% of these cases, improvements in maternity care may have made a difference to the outcome (Royal College of Obstetricians & Gynaecologists, 2017). To address this, new initiatives have increased capacity of specialist mother and baby units nationally and ensured specialist perinatal mental health teams operate in maternity units across England (NHS, 2020a). These initiatives are heading in the right direction and point towards safer maternity care. However, gaps remain in perinatal mental health services, predominantly in addressing women's mild-to-moderate mental health needs after giving birth (Care Quality Commission, 2020).

The provision of specialised maternity care across the UK is patchy, and there is a great deal of variation both within and between distinct geographical areas (Maternal Mental Health Alliance, 2014). Many women experiencing birth trauma are cared for in primary care through psychological therapy services (IAPT), or private therapy, rather than specialised maternity services. A large number of different, independent agencies are involved in the commissioning and provision of specialised mental health care during the perinatal period

(Bauer et al., 2014). Therefore, in order to gain an understanding of perinatal mental healthcare, it is important to document the experiences of healthcare professionals both within and outside of NHS services. Equally important is the method of data collection from healthcare professionals to ensure healthcare worker voices are not lost within the statistics. This study aimed to provide a platform for perinatal counsellors from an independent organisation to discuss their perspective and experiences in working with parents struggling after experiencing a traumatic childbirth. The purpose of this focus group was to garner a more in-depth understanding of birth trauma from perinatal mental health counsellors. The focus group method was deemed a more appropriate approach to collect meaningful opinions and suggestions on the specific issue of birth trauma through interaction, as opposed to individual interviews (Jayasekara, 2012).

Morgan (1996) defines a focus group as *“a research technique that collects data through group interaction on a topic determined by the researcher.”* The interaction component of this definition is essential when considering the strengths of a group dynamic to aid participants in expressing their views, thoughts and feelings on a specific topic in a collective context (Carey & Smith, 1994). This group dynamic is suggested to reduce the influence of the interviewer on participants by tilting the balance of power toward the group (Morrison & Peoples, 1999). Focus groups are also considered a useful method of data collection when there is limited understanding of the topic area (Powell & Single, 1996). Birth trauma is a relatively recent field of study and PTSD from childbirth was first studied prospectively only two decades ago (Ayers & Pickering, 2001; Czarnocka & Slade, 2000). Since then, continued quantitative and qualitative research has enlightened what we now know about birth trauma. Yet, existing qualitative research typically documents the perspective of the mother or affected family (e.g. Ayers, 2007; Beck, 2004, 2006) or midwifery staff (e.g. Sheen et al.,

2015; Sheen et al., 2016). Far less research is dedicated to perinatal counsellors' perspective on the impact of traumatic childbirth.

The current study was designed to explore perinatal counsellors' experiences of working with families experiencing birth trauma. A focus group design was incorporated to better understand perinatal counsellors' perspective on the consequences of traumatic childbirth for families and reflect on features of maternity care that could be improved. The objectives of this study are:

- 1) To investigate perinatal counsellors' perspective on how birth trauma affects families
- 2) To better understand trends in perinatal mental health and current maternity practice with reference to birth trauma.
- 3) To identify areas in current maternity care that could improve outcomes for families.



## **6.3. Method**

### **6.3.1. Design**

This study was a qualitative focus group to gather information about birth trauma from the perspective of perinatal counsellors. A topic guide was designed to explore perinatal counsellors' experiences of working with families struggling after traumatic birth and identify trends and potential improvements to current maternity practice. The topic guide contained four questions in line with the study objectives and each with several prompts to promote discussion (*Appendix 4*). The focus group was conducted at the charity's headquarters in South Devon, UK, at the convenience of the perinatal counsellors.

### **6.3.2. Participants and Recruitment**

The mini focus group was conducted with volunteer counsellors from a local perinatal mental health charity in the South West of England. The charity provides counselling support for parents experiencing difficulties during pregnancy, after difficult childbirth or after baby loss. Counsellors from the charity were invited to take part in the study via email, and were sent an information sheet detailing the purpose of the study three weeks prior to the focus group. The mini focus group was conducted on January 28<sup>th</sup> 2020. Two counsellors were unable to attend the meeting and so the focus group was conducted with two perinatal counsellors (S and J). Counsellor J has twelve years perinatal counselling experience and counsellor S has nine years counselling experience. A £50 donation was gifted to the charity after the focus group as a gesture of gratitude to the counsellors for their time.

### **6.3.3. The Focus Group**

The departmental ethics committee at the University of Plymouth approved this study (*Ref: 18/19-1038*). The counsellors consented to participation at the beginning of the meeting and were reassured that all information provided would be kept confidential and anonymised. A moderator (the researcher) conducted the mini focus group and an observer (Masters student) took detailed notes. The primary aim of the focus group was to examine perinatal counsellors' experience and views on birth trauma. As such, a topic guide was designed in line with the study objectives, using open questions as discussion prompts (see *Appendix 4* for a full copy of the topic guide). The guide was flexible and adaptive to the natural progression of discussion during the focus group. The topic guide began with a broad question that asked the counsellors about their experience in working with families. This question was deliberately broad to prompt discussion and ease the participants into the session in alignment with focus group guidelines by Krueger (2014). From this, participants were asked more specifically about their experience of working with families who are experiencing birth trauma and about any trends or changes they have noticed in their perinatal mental healthcare provision. Following this, the counsellors were asked about their views on current maternity care practice and changes they believe would improve perinatal mental healthcare. Discussions proceeded for 1.5 hours and the counsellors talked about their experiences openly and freely. The moderator balanced the discussion so that all topics in the discussion guide were addressed but allowed freedom of conversation between the counsellors. Notes were made throughout and the meeting was digitally recorded on a portable recording microphone placed in the middle of the meeting room. At the end of the focus group, the counsellors were provided a debrief with contact details for the researcher, researcher's supervisor and University ethics committee.

#### **6.3.4. Data Analysis**

The recording of the mini focus group was transcribed verbatim and notes made by the observer and moderator were collated and compared. The transcripts were analysed separately by the moderator and checked by the moderator's supervisor, who was not present at the focus group, to improve consistency and protect against contamination of projection (Roberts et al., 2019). The moderator followed a sophisticated reflexive approach to thematic analysis of the transcript (Braun & Clarke, 2012). The first phase involved immersing in the data by listening to the audio recording of the meeting and reading and rereading the transcripts whilst noting any potential points of interest. The next step involved sorting the data into codes before clustering codes into broader categories that reflect a meaningful pattern in the data. Tentative categories were then discussed with the moderator's supervisor and themes were checked against the collated extracts of data. Any differences were discussed and resolved after further scrutiny of the data. This led to further distinction of themes that were then reviewed by the observer for external validation of the analysis. For further validation, the thematic framework was sent to both counsellors who partook in the mini focus group to ensure their experiences had been correctly understood and interpreted, (member checking), (Doyle, 2007). Both participants validated the thematic framework.

## 6.4. Results

Thematic analysis of the focus group revealed five main themes: 1) The complexity of birth trauma; 2) The power of communication 3) Changes in culture; 4) Falling through the gaps and 5) Coping with trauma. *Table 6.1.* presents the main themes and subthemes identified from the focus group. Themes are discussed with quotes from both perinatal counsellors with their first initial and line numbers from the transcript preceding each quote (e.g. ‘S (10-15)’; ‘J (352–253)’).

*Table 6. 1. Table of themes and subthemes generated from thematic analysis of focus group*

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<b>The Complexity of Birth Trauma</b>
Guilt, jealousy and self-blame
Hypervigilance and avoidance
Fear of future pregnancy
Disrupted memory of the birth
<b>Power of Communication</b>
Significance of sharing your story and feeling heard
Importance of non-judgmental relationships
Finding the right medium to tell your story
Difficulties in communicating trauma
<b>Changes in Culture</b>
Partners seeking help
Vicarious trauma
Changes in what is considered ‘traumatic birth’
Recognising the diversity of birth experiences
<b>Falling Through the Gaps</b>
Not reaching the high threshold for referral
Inconsistency in healthcare experience
Fragmented healthcare pathways
<b>Coping with Trauma</b>
Importance of accepting emotions
Recognition, sharing your story and helping others
Raising awareness of alternative outcomes
Partner differences in coping
Visualising an alternative outcome
Recognising and remembering baby loss

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#### **6.4.1. Theme 1. The Complexity of Birth Trauma: ‘It has a knock-on effect to every area of your life’**

Theme one summarises the counsellors’ discussion of the difficulties and symptoms presented by clients experiencing trauma. Guilt was a recurring theme surrounding parents’ experiences of traumatic childbirth and in cases of baby loss. For example, being around other pregnant women or families with babies can evoke guilt, which may subsequently trigger feelings of jealousy. There was also in-depth discussion surrounding parents’ self-blame regarding the trauma they have experienced.

J (508-512): a lot of people generally will blame themselves for whatever has gone on and then feel very guilty, about- ‘they should have done this or done that...and maybe they should have recognised this’ and then blamed themselves, so there’s a lot of unpicking of that that has to happen.

Additionally, there were discussions surrounding the challenges mothers face when accepting and processing the emotions they feel in terms of guilt, more specifically, guilt for having negative thoughts or feelings after the birth of their baby.

J (587-589): they’ve survived, they’re ok now, the baby’s ok now, but they’re still suffering with flashbacks, or can’t sleep, or can’t eat, or can’t go out, or absolutely petrified of a future pregnancy, because what if it happens again?

The complexity of birth trauma was also expressed in the cumulative nature of trauma symptoms affecting all aspects of clients’ lives.

S (322-324): She [client] was very overprotective of both of them, so much so that she’d be checking them constantly all through the night. So, obviously that had a knock-on effect because then she wasn’t sleeping, but still having to function and work.

The counsellors also recollected the range of difficulties presented by clients, and discussed women experiencing hypervigilance and avoidance of their birth environments as well as fear of future pregnancy.

S (679-681): If she needed anything from the house she sent her partner... because she said I just can't go back there to where it happened.

The final subtheme surrounded clients' vulnerability to memory disruption in the form of intrusive flashbacks of their birth experience or disrupted memory of the birth. The counsellors discussed clients who had reoccurring or fragmented memory of their birth or who had experienced memory aberrations such as seeing themselves as the perpetrator of the trauma they experienced. Clients' vulnerability to memory disruption coincided with the importance of communicating or reiterating the events that occurred during their birth with healthcare professionals.

J (259-262): There is the Afterthoughts service\* at the Hospital isn't there, and people can talk through their experience with them, and I guess some people haven't got a full memory of what happened, because it's quite distressing, but then they can talk through their labour and get some understanding. I know for one lady that was really helpful - to go over exactly what happened and make sense of it. Because she'd remembered it slightly differently to the reality of what had happened.

*\*Birth Afterthoughts Service. A service for parents to talk through their birth events with a healthcare professional at the local Hospital.*

#### **6.4.2. Theme 2. Power of Communication: 'After a few months of counselling, and being heard, she did gradually get stronger'**

The second theme concerns the healing and cathartic nature of clients communicating their trauma. A recurring theme surrounded the power of feeling heard and the importance of

helpful, supportive relationships in which clients feel comfortable in sharing their stories without fear of judgement.

J (222-225): it's really important for people to have their stories heard, and I think they need to be heard, even though we don't want to re-traumatise people, but I think they need to be heard and they need to tell their story.

The counsellors reflected on how their clients communicating their trauma allowed them to process their emotions and rebuild connections with their partners who may otherwise avoid talking about their traumatic birth experience.

J (206-209): talking it through together they- again- they don't realise the other one felt like that, and then that facilitates conversation. So they both feel heard, and they both feel understood then, so then that opens up some sort of connection.

The power of communication coincided with the importance of finding the right medium for clients to tell their stories. The counsellors recollected the diversity in channels used by clients that allow them to communicate their trauma and raise awareness of their experiences. These outlets included poetry; blogging; journaling; radio and fundraising events, all of which were described as ways to help clients to recognise and normalise their experience or emotions, whilst also helping others going through similar experiences.

J (334-338): one of our clients, previous clients, she wrote a poem about envy, and it was really powerful and she gave permission for other people to read it, so that it helped them know it was normal, given what they were going through. And then, once they accept that kind of thing, then it moves away usually.

A contrasting subtheme that arose regarding clients' communication of their experiences was the challenge many clients faced when recounting the story of their traumatic birth. This

particularly related to clients who had a disrupted memory of their birth, and clients who found the process of sharing their story too distressing. However, these anecdotes were often paired with the sense of relief that followed from a client finally being able to disclose what happened to them.

J (219-220): Her [other counsellor] client wanted to share her story but didn't know how to, because it was so traumatic.

J (284-289): There's lots of people - that we know of, who have just sat on things for several years, and never shared it. And when they have come to share it, it's been really difficult because they've shut it down so much. But then the relief again of sharing it, and then they can move on again.

#### **6.4.3. Theme 3. Changes in Culture: 'They are not physically experiencing it, but they were there witnessing it, which can be just as traumatic'**

The third theme describes the expression of a cultural shift in either partner experience of trauma or what is considered a traumatic birth experience. Although discussions were largely focused on women's experience of birth trauma throughout the mini focus group, both counsellors recounted their experience working with couples or with fathers individually, which was noted as a relatively recent change in their perinatal counselling practice.

S (113-123): a few years ago, like when couples came in, often the man would, you know, come for the first session with the woman, the first few sessions, and then they would drop off and the woman would come on her own. But actually more recently - it's the guy who's actually got in contact to organise the counselling and - kind of instigated it, really...And they've come together throughout all the sessions, it's been really consistent. So that's quite interesting isn't it?



The impact of birth trauma on the father was discussed with reference to men's mental health and the difference in coping styles and responses to trauma between men and women.

J (108-110): The guys are actually quite traumatised from the birth and can't talk about it, but are clearly visibly shocked over things that have happened. And there doesn't appear to be any dedicated support for the guys.

Discussion of secondary trauma typically surrounded the fathers' experience of birth trauma and the impact it has on fathers and their relationships with their partners. However, in addition to fathers' secondary trauma, there was also mention of vicarious trauma experienced by other family members present at the birth.

J (297-301): a young girl who'd gone through a traumatic birth, and her mum and her grandma were there supporting her, so then they were all traumatised as well, so they've been coming in for counselling too, so it was like three generations coming in. So I guess it shows it has an effect on people in a room.

A recurring theme throughout the focus group involved observing what birth experiences are considered as 'traumatic enough' by healthcare professionals as well as by clients. The counsellors reflected the shift in birth counselling practice, which has seen greater diversity in client experiences, reflecting a more general cultural shift of what is considered traumatic birth.

S (50-55): The diversity of things that people are coming in for has changed as well... We've seen more people who come in because they've gone through more traumatic birth, so they haven't necessarily suffered a loss, but they've gone through a really traumatic time, and then are struggling, and then maybe get pregnant again, and there are lots of anxieties around that.

The counsellors' stories of clients' birth experiences were unique and diverse, but typically involved high levels of fear and feelings of lacking control or feeling let down by the people

around them. This highlighted the significance of a woman's perception of her birth environment as a key factor for the appraisal of her birth as traumatic.

S (617-618): They probably just didn't think did they. In the chaos of it all they wouldn't have thought that it might have an effect on her.

Discussion of what is regarded as 'traumatic enough' coincided with clients experiencing difficulties in processing their emotions, leading clients to feel ashamed for having negative thoughts and feelings after a traumatic birth.

J (577-581): particularly with traumatic birth, because, it's a traumatic situation, but they've had their baby, and everything seems fine, but they're left with all these other feelings, that nobody else experienced... 'why should I be saying all this, why should I be feeling all this?' But actually they are, and somehow they need to process that.

#### **6.4.4. Theme 4. Falling Through the Gaps: 'If you don't meet that high threshold, that doesn't mean you haven't got distress going on'**

The fourth theme describes discussions of current healthcare practice and ways parents struggling with birth trauma may fall through the gaps, resulting in parents not accessing the help they need. This includes cases of mothers with mild-to-moderate trauma symptoms falling below the threshold for referral to mental health services, or women whose existing mental health difficulties were not identified by health care professionals during and/or before their birth.

S (64-67): The perinatal mental health team, I think, take - care of the women who are very - have very severe difficulties, because there's quite a high threshold. So I think there's probably a bit of a gap in the services somewhere.

S (409-411): she'd (client) had a traumatic birth and treatment at the hospital wasn't very good. She was discharged when she shouldn't have been because she'd had a mental health issue, so there were so many things going on.

Additionally, within this theme were conversations surrounding the disparity in clients' healthcare experience, reflecting the inconsistencies in aftercare procedures for postnatal mental health following childbirth.

J (27-31): There seems to be a disparity with how people are treated. So some people get really, really good treatment some people are very supported and helped very sensitively, after whatever they've experienced. But other people, you know, have been left in a room on their own when they're really distressed.

Particularly salient during the mini focus group were the counsellors' discussion regarding the inconsistencies in method of referrals made to the charity, highlighting one of the symptoms of a fragmented healthcare pathway. Discussions of the ways in which clients are referred to the counselling service revealed a disjointed system that relies on awareness of individual healthcare professionals to direct patients to the charity, or through word of mouth from previous or existing clients.

J (82-94): there is a referral form that we've received from the Hospital for a couple of people, haven't we, I don't know where that's come from? Probably the midwifery team... But quite often people come through their colleagues or people who've been here, you know, if their friend is going through something similar.

During discussions regarding improvements that could be made to better support parents struggling with birth trauma, both counsellors identified joining perinatal health services as an important change to create a more robust healthcare pathway for parents struggling with mental health difficulties during the perinatal period.

J (689-699): we've been around for 12 years, and although lots of people do know of us, I mean we're a small charity and we can't- haven't got the resources or time to go out to doctors all the time. And people change, people move on don't they, so some- some people in the city really know us well don't they, some people in the midwifery services know us well. And then there's others that don't, so, you know there's people who've come along recently who said, "I never knew anything about you, you know, nobody told us about you"- so, you know I guess making sure there's a robust care pathway for people that need different help for different stages of pregnancy and beyond.

#### **6.4.5. Theme 5. Coping with Trauma: 'It helped them know it was normal, given what they were going through. And then, once they accept that kind of thing, then it moves away'**

The final theme from the mini focus group concerns the counsellors' reflections on how clients cope with trauma following either a traumatic birth experience or baby loss. Learning to accept one's emotions was recognised as a key factor for clients coping with trauma.

J (333-334): We found in terms of people owning whatever emotion it is, that that helps them to move through it, otherwise they hold onto it and try and push it all away."

The counsellors recollected coping strategies used by clients, and discussed the significance of clients recognising what they had been through. Clients recognising their experiences often preceded the motivation to share their story and raise awareness of their experience in the hope of informing and helping other parents.

S (250-255): As well as telling her story she wants to raise awareness about that... she has found that really helpful and really healing to be able to go, although obviously it's really painful, you know going over some of that stuff. Like you said it's about being heard isn't it?

Raising awareness of alternative outcomes during pregnancy was a particularly salient discussion point; this topic arose during the counsellors' recollections of clients who had experienced miscarriage and went on to raise awareness of pregnancy warning signs for expectant mothers. During discussion of improvements to current perinatal practice, the counsellors deliberated the importance of informing expectant parents, in a sensitive manner, about all eventualities of pregnancy and birth and the potential danger of focusing on a rigid birth plan without awareness of alternative outcomes.

J (707-712): it's obviously a very sensitive thing to bring in, because you want someone to go through that pregnancy and be positive, hopeful and supported all the way through and hopefully they'll have a live baby, but the- I don't know, lack of awareness of people, that something could go wrong. People don't seem to know that, and it's a really fine area because you don't want someone to have to experience that.

The counsellors considered how raising awareness and raising money for relevant charities, or causes in line with clients' own perinatal experiences, seemed particularly cathartic to fathers who had experienced traumatic birth or baby loss.

S (493-495): So it always seems to be the guy who maybe wants to be really proactive, and do something really physical and you know raising awareness and raising money at the same time.

This overlapped with a more general discussion surrounding the differences in coping strategies between male and female clients. The counsellors recalled how fathers were more likely to withhold from sharing their trauma stories, and may take longer to communicate their feelings to try to remain strong for their partners.

J (178-180): Guys don't like to always share, because they don't wanna upset their partners, because they know their partners are already upset as well, so they will withhold a little bit don't they.

Regarding traumatic birth experiences, the counsellors discussed the value of visualising an alternative birth story that more closely resembled both parents' ideal birth.

S (238-243): we really broke it down, and wrote it down- how they would have liked it to have been if they could visualise that positive birth, how they - you know in their ideal world what they would have liked to have worked out, just to give them that kind of alternative image in their mind.

The final subtheme for coping with trauma describes the importance of recognising and remembering baby loss. The counsellors discussed the various techniques used in their practice to encourage and support remembrance as well as local baby bereavement charities that offer space for parents to remember their lost baby. There was also particular emphasis put on the value of having the space and time to grieve the loss of a baby through miscarriage.

S (866-869): We have that memory book over there don't we that they can write in- people don't very often but they can write in that if they want to as well, so the baby is remembered here in some way. And they've got 'Little Things'\* up at Derriford as well where they can place a pebble with the baby's name or date of birth on.

*\*Little Things and Co. A baby bereavement charity based in Devon who set up 'Little Haven', a dedicated space for bereaved families*

## 6.5. Discussion

This mini focus group study aimed to provide a platform for perinatal counsellors to voice their unique perspective and experiences of birth trauma. Thematic analysis of the focus group presented birth trauma as a multi-faceted issue that affects many aspects of the counsellors' clients' lives, requiring diverse methods to help clients to cope with the trauma they experience. However, at the foundation of all methods of coping with birth trauma, was the importance of communication, both allowing clients to share their stories and foster good communication between partners. The focus group also presented current issues with a disjointed healthcare system that leaves families vulnerable to fall through the gaps and not receive appropriate care. Thematic analysis revealed five main themes and the structure of the discussion section addresses each theme in more detail individually.

The first theme comprised the myriad of symptoms presented by clients who have experienced birth trauma. Many of the symptoms mentioned match the symptom profile of PTSD (APA, 2013): re-experiencing the birth; avoidance of environmental triggers; memory disturbances of the birth; hypervigilance with the baby and fear of future pregnancy. In addition to the presentation of trauma symptoms, this focus group emphasised the significance of guilt and shame following traumatic birth experience. Trauma research suggests that intense feelings of shame and guilt impede emotional processing of a traumatic event and can prolong symptoms of PTSD (Lee et al., 2001). This may be particularly salient in traumatic childbirth due to the dominant cultural representations of motherhood as a time of joy conflicting with the tendency for mothers to experience maternal guilt after having a baby (Sutherland, 2010).

The second theme reflects the power of communication in the context of clients being able to share their birth story and the significance of feeling heard. Qualitative research concerning traumatic birth, highlights the detrimental impact of poor communication between women and clinicians; this leaves mothers feeling invisible and ignored during labour and after birth (Beck, 2004; Coates et al., 2014). In this mini focus group, counsellors S and J placed particular emphasis on the cathartic nature of clients being able to share their stories and talk through their birth experiences in a safe and non-judgemental environment. Counsellor J recollected signposting a client to a ‘Birth Afterthoughts’ service at the local hospital which offers mothers the opportunity to talk through their birth with a midwife; this helped the client process what had happened to her during her birth.

"...I know for one lady that I know of, that was really helpful - to go over exactly what happened and make sense of it."

Providing women the opportunity to talk about their birth experiences and ask about the care they received are recommended practices in current UK guidelines for delivery of maternity care(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015)(NICE, 2015). A large majority of maternity units in the UK now offer a listening service (Ayers et al., 2006), yet research into the effectiveness of postnatal debriefing has garnered mixed results (Bastos et al., 2015). This is suggested to be due to the variance in the level of skill/training of care providers to deliver appropriate debriefing rather than an inherent issue with talking about the birth experience (Kitzinger & Kitzinger, 2007). This echoes the prerequisite of a safe and non-judgemental environment for parents to communicate their birth experiences. Indeed, in a recent national maternity survey, postnatal care was an area highlighted as needing improvement, particularly concerning women's mental health needs with 20% of women reporting that they



were not given contact information for perinatal mental health advice after their birth (Care Quality Commission, 2020). This highlights the need for specialist postpartum maternity care and consistency of referrals to empower women with the choice to discuss their birth experience and alleviate some of the pressure on general mental health services and small independent perinatal mental health charities.

The inclusivity of all mothers to access birth aftercare, as opposed to limiting aftercare to physical care for mothers who experienced obstetric complications, reflects an acknowledgement of the diversity of birth experiences and the subjective nature of birth trauma (Garthus-Niegel et al., 2013). Throughout the mini focus group, the counsellors recollected clients' various accounts of unique birth experiences that have detrimentally impacted clients' mental health. The diversity of birth experiences was discussed in the context of a wider cultural change in the recognition of what is considered a 'traumatic birth'.

"...the diversity of things that people are coming in for has changed as well."

The cultural shift acknowledging the diversity of traumatic birth experiences is complemented by research documenting birth trauma as a unique and highly subjective experience (Beck, 2004). That is to say, what healthcare professionals may consider routine practice may be perceived to a woman as traumatic. This further emphasises the importance of recognising the overall birth environment as a potentially traumatising event, regardless of the level of obstetric complications or positive outcome of the birth.

A second cultural shift described by the counsellors is the increase of fathers accessing perinatal mental health support alone and/or with their partners. A review of paternal perinatal mental health estimates that approximately 10% of men experience postnatal

depression during the perinatal period, moderately positively correlating with maternal depression (Paulson & Bazemore, 2010). Qualitative research with fathers suggest that men prioritise their partners' needs and question the legitimacy of their own perinatal mental health struggles; this leads to a reluctance to seek support and perceived exclusion from support services (Darwin et al., 2017; White, 2007). The emergence of research into paternal mental health has highlighted the need for a paradigm shift to focus on perinatal mental health from a family-perspective (Wong et al., 2016). Throughout the focus group, the counsellors continually expressed the significance of good communication between parents and inclusion of partners in therapy. Yet, it is important to note that discussions concerning partner trauma during the mini focus group were with reference to fathers only. There is limited research on the impact of partner trauma in LGBTQ couples (Darwin & Greenfield, 2019); therefore, it is difficult to discern whether the trauma responses discussed are typical of birth partners or of men specifically. Further research is warranted on the impact of birth trauma in LGBTQ couples to discern the applicability of these postnatal responses to same-sex couples and ensure appropriate support be offered to all parents.

The fourth theme encapsulates discussions of the UK's current maternity practice that may leave parents vulnerable to 'falling through the gaps' of the healthcare system by not receiving the support they need. The high threshold women need to reach to access post-birth support as well as inconsistencies in maternity care were also discussed within this theme.

"...there seems to be a disparity with how people are treated."

A report by the Royal College of Midwives (RCOM) stated that nearly one third of student midwives did not feel they had sufficient theoretical knowledge to recognise issues relating to perinatal mental health (RCOM, 2020). The report posits the solution of including greater

emphasis on mental health in the pre-registration syllabus for midwifery and employing at least one specialist perinatal mental health midwife in every maternity unit. Alongside this, a prerequisite in supporting women in maternity care is appropriate staff numbers to provide personalised care for mothers in labour and ensure consistency of care (Smith et al., 2009). The need for greater personalisation is also highlighted in the NHS guidelines for Better Births (Cumberlege et al., 2016). During the focus group, amid discussions of ways to improve maternity care, counsellors S and J highlighted the need to join-up perinatal services to create a more robust and consistent care pathway.

"...making sure there's a robust care pathway for people that need different help for different stages of pregnancy and beyond."

The need to integrate maternity care services has been echoed in the most recent 'Better Births' report which calls for digital maternity records across England. Electronic maternity records make it easier for healthcare professionals to share data with other clinicians and the women in their care (Cumberlege et al., 2016). In addition to joining antenatal and postnatal services, providing a digital platform for maternity records can also reassure women that healthcare providers have access to previous mental health concerns or previous birth trauma, as well as a clear and recent outline of their personalised care and support plan. NHS England have committed to expand this platform to all women by March 2024 (NHS, 2020a), a positive step in possibly narrowing the gap in perinatal mental healthcare and creating a more robust care pathway for every family.

Finally, the counsellors in this mini focus group recount the ways parents cope with the trauma they experienced. The counsellors discussed how clients found strength in pragmatic approaches of fundraising and raising awareness to educate other expectant parents of all birth eventualities. These included teaching 'counting kicks' in pregnancy to raise awareness

of foetal distress and sharing poetry to vocalise unexpected postpartum emotional responses (such as jealousy or guilt). This final theme highlights the importance of considering the narrative surrounding childbirth and what is presented to women as a normal or ideal pregnancy and birth. Women may be more reluctant, or find it more uncomfortable, to communicate their traumatic birth when the reality of their experience deviates from their perceived ideal (Peeler et al., 2018). Therefore, it may be more appropriate to open the discourse of all birth eventualities, in a sensitive and supportive manner, throughout the perinatal period.

#### **6.5.1. Strengths and Limitations**

This study aimed to gain further insight into the consequences of birth trauma from the perspective of perinatal counsellors. The focus group design was selected as it afforded a more in-depth method of qualitative data collection with less interviewer-influence (Krueger, 2014; Morrison & Peoples, 1999). However, the size of this mini-focus group was small, with only two perinatal counsellors in attendance. This causes issues in generalisability due to the limited total range of experiences. Additionally, both counsellors involved in this research study are volunteers from the same perinatal mental health charity. It would be beneficial to conduct focus group research with counsellors from different service providers, including IAPT services, to compare experiences and perspectives from a wider range of service provisions.

#### **6.5.2. Conclusions**

The findings from this mini focus group highlight the complexity of birth trauma in a changing perinatal culture, and the ways parents can be vulnerable to ‘falling through the gaps’ in terms of accessing appropriate maternity care. Additionally, the findings highlight clients’ resilience in their methods of coping with birth trauma and the power of communication as a form of catharsis for suffering parents. The themes identified reflect previous academic research on parent and clinician experiences of birth trauma as well as national reports aimed at improving maternity care for parents.

## CHAPTER SEVEN

### CONCLUSIONS, IMPLICATIONS AND FUTURE DIRECTIONS

*"The end of a melody is not its goal; but nonetheless, if the melody had not reached its end it would not have reached its goal either. A parable"*

*Friedrich Nietzsche*

## 7.1. Preface

This thesis presents a mixed methods investigation into predisposing factors associated with a traumatic appraisal of childbirth and presentation of postnatal PTS symptoms. The works included make original contributions to existing literature in terms of theoretical development. Firstly, my retrospective survey presents the mediating role of perceived support on the relationship between level of obstetric intervention and postnatal trauma symptoms (*Chapter Three*). Secondly, my longitudinal study presents the role of alexithymia as a predisposing vulnerability factor for postnatal trauma as well as a function of post-trauma response. The longitudinal study also reiterates the significance of women's subjective experience of birth, namely their perceived level of support, internal control and perinatal dissociation, which was associated with birth-specific trauma symptoms (*Chapter Five*). Thirdly, the quantitative data presented provides evidence of distinct aetiological pathways of postnatal trauma symptoms compared to depression and anxiety symptoms, however, all of which were associated with pre-existing trauma symptoms during pregnancy and the perception of lower perceived internal control during birth (*Chapter Five*). Finally, the qualitative component of this research offers a novel thematic framework of contributory factors for women's appraisals of childbirth as traumatic or non-traumatic in relation to women's experience of feeling empowered or powerless during birth (*Chapter Four*). This Chapter provides an overview of each study and discusses the theoretical implications of findings in relation to the research questions outlined at the beginning of this thesis. This is followed by a discussion of the applied relevance of these findings and the challenges associated with future directions for research and practice.

## 7.2. Main Findings

Chapter Three presents a preliminary, retrospective survey study to address factors related to the birth experience that may be associated with both a traumatic appraisal of childbirth as well as postnatal PTS symptom presentation. The mixed-methods survey revealed the subjective birth experience to be a greater predictor of postnatal trauma compared to the obstetric experience. Mediation analysis revealed an interplay between the level of obstetric intervention experienced and postnatal trauma symptoms as buffered by the perception of feeling supported during birth. These findings emphasise the significance and potentially protective nature of a supportive birth environment, particularly in cases where obstetric intervention is required. Additionally, comparisons with postnatal depression and anxiety suggest this relationship to be unique to postnatal trauma symptoms. The qualitative component of this survey emphasised the diversity of birth experiences appraised as traumatic by women. Content analysis revealed several subjective factors such as a lack of control, fear and lack of support, alongside obstetric complications, that may contribute to the appraisal of childbirth as traumatic. The mixed-methods design of this study provided a clearer picture of not only the prevalence of postnatal PTSD amongst women in the first year postpartum, but also the significant proportion of women who appraise their birth experience to have been traumatic. The findings from this study provided strong support for the assumption that the subjective experience of birth is a significant factor in the appraisal of birth, and may subsequently contribute to the development of postnatal PTS symptoms. The results from this study dictated the course of the following qualitative and quantitative research studies presented in this thesis to have a clear focus on the subjective experience of birth.



Chapter Four explored further the subjective experience of birth amongst women who appraised their birth as traumatic and those who did not appraise birth as traumatic. Thematic analysis of interviews with mothers revealed a dichotomy of themes that could be categorised as feeling empowered or feeling powerless during birth. Subthemes contributing to the overarching category of feeling empowered related to trust in one's maternity support, control over one's own body and the choices made during birth and feeling informed. In contrast, feeling powerless was associated with feeling distrustful of staff support, not having control over one's body or the birth environment and feeling kept in the dark. A clear divide emerged between the two groups of women, suggesting that perceived level of empowerment/powerlessness during birth could be a key determinant in the appraisal of childbirth as a traumatic or non-traumatic experience. The findings from this interview study emphasised the importance of inter-personal relationships between the mother and those around her to foster a trusting, supportive environment whereby the mother feels empowered and in control of how her baby is born. Taken together, the findings from Study I and II of this thesis present compelling support for the assumption that a negative subjective experience of birth is associated with a traumatic appraisal of childbirth and may contribute to the development of symptoms of postnatal PTS symptoms.

Chapter Five presents a longitudinal survey study to test prospectively the predictive value of vulnerability factors in pregnancy alongside characteristics of the birth experience for the development of postnatal PTS symptoms. The findings from this prospective study revealed existing PTS symptoms and greater alexithymic traits during pregnancy as predictive of postnatal trauma symptoms. This suggests an increased vulnerability amongst women who may have experienced prior trauma. Similar to the findings from Study I and II, the subjective experience of birth, namely perceived support; internal control and dissociation,

were also predictive of the development of PTS symptoms at three-months postpartum, regardless of the importance afforded to feeling in control antenatally. These subjective birth factors emerged as stronger predictors for postnatal trauma compared to level of obstetric intervention experienced. Utilising a prospective design, this study provides compelling evidence for the assumption that a negative subjective experience, whereby the mother feels unsupported and out of control during birth, can lead to increased trauma symptom presentation postpartum. This study also offers some preliminary data that reflects certain differences and similarities in the aetiological pathways for postnatal trauma, depression and anxiety symptoms. Greater importance appears to be afforded to the subjective birth experience for postnatal trauma, yet all three features of postnatal psychopathology were significantly predicted by low internal control during the birth and pre-existing PTS symptoms during pregnancy. These findings support the inclusion of screening measures for existing trauma symptoms during pregnancy and level of perceived internal control during birth as part of a perinatal mental health assessment as a useful indicator for vulnerability to postnatal psychopathology. In line with this, poor perceived support, a lack of external control and increased dissociation during birth were indicative of birth-specific trauma symptoms involving re-experiencing and avoidance of the birth postnatally. This finding highlights the complexity of birth trauma and the possible utility of a more comprehensive assessment of the mother's subjective birth experience, as well as antenatal screening for vulnerability, to better determine risk of postnatal trauma.

Chapter Six sought to explore the reflections of perinatal mental health counsellors on the topic of birth trauma. Inclusion of this study coincides with the clinical application of this research as it presents a snapshot of services currently available to families and highlights some of the issues associated with maternity care in terms of perinatal mental health.

Thematic analysis of the focus group further emphasised the complex nature of birth trauma in how it manifests and affects clients' lives. A key theme pertaining to coping with birth trauma revolved around communicating one's story as a method of catharsis. The perinatal counsellors reflected how the power of communication allowed clients to express and accept accompanying emotions after experiencing traumatic childbirth. This supports the existence of a listening service within maternity care whereby parents can discuss their birth experience with a healthcare professional. Additionally, thematic analysis revealed a changing perinatal culture, with greater diversity in the traumatic birth experiences clients present with and increased prevalence of partners seeking help to deal with vicarious trauma after childbirth. In alignment with this change in culture, the final theme exposed cracks in current maternity practice whereby perinatal services have not caught up with this new demand. Families who fall below the high-threshold of postpartum psychopathology are vulnerable to 'fall through the gaps' and not receive the help they need.

### **7.3. Implications**

This body of work has several implications for theory, research and practice. The research that makes up this thesis was created to answer four distinct research questions put forward after reviewing the existing literature as outlined in Chapter One. The implications of the findings from this thesis are addressed with reference to each of these research questions individually.

#### **7.3.1. Research Question 1: *What perinatal risk factors are associated with postnatal PTS symptoms?***

Chapter Three reported correlational data for perinatal risk factors associated with postnatal PTS symptoms. Significant correlations emerged with greater perceived fear, pain and lower perceived support during birth as well as increased level of obstetric intervention. However, following regression analyses, subjective factors pertaining to support and fear emerged as significantly stronger contributors to postnatal trauma symptoms than obstetric factors and perceived pain. Additionally, the mediation analysis presented in Chapter Three reflects a protective function of good perceived support that buffers the relationship between increased obstetric intervention and trauma symptoms after the birth. Similarly, Chapter Five reported subjective factors of lower perceived support and internal control and greater dissociation during birth as significant predictors of postnatal PTS symptoms, over and above obstetric intervention. Taken together, these findings reflect the potential detrimental impact of a negative subjective birth experience, whereby the mother feels unsupported, out of control, dissociated and fearful during her birth, on the development of postnatal PTS symptoms.

The perinatal risk factors that emerged from regression analyses of these large-scale surveys coincide with those presented in the diathesis-stress model of birth-related PTSD reported by Ayers et al., (2016). The aetiological model conceptualises postnatal PTSD as the outcome of an interplay between pre-birth vulnerability, risk factors during birth and post-natal factors. The birth-related risk factors comprise a negative subjective birth experience, operative birth, lack of support and dissociation as prominent perinatal risk factors for PTSD after childbirth. As Ayers et al., (2016) refer to in their meta-analysis, risk factors associated with the subjective birth experience included: 1) overall ratings of birth experience; 2) negative emotions and distress and 3) control and agency. The prospective research presented in this thesis contributes to this model by addressing which specific aspects of control and agency are associated with postnatal PTS symptoms. Internal control emerged as a significantly

stronger predictor of postnatal trauma compared to external control. This suggests that having control over one's own body, behaviour and coping mechanisms is more important than having complete autonomy over the birth.

Similarly, perinatal dissociation also emerged as a significant predictor of postnatal trauma symptoms, which is in line with previous perinatal research (Haagen et al., 2015; Olde et al., 2005; Thiel & Dekel, 2020; Zambaldi, Cantilino, Farias, et al., 2011). Dissociation during a traumatic event plays a central role in the development of PTSD in non-childbirth related trauma (Briere et al., 2005; Ozer et al., 2003). The most common explanation for the association between peritraumatic dissociation and PTSD is that dissociating interferes with the processing and encoding of the traumatic memory (Brewin et al., 2010; van der Kolk & Fisler, 1995). Brewin et al. (2010) theorises a dual-representation theory of PTSD whereby sensory-bound representations (S-reps), containing sensory images and markers of affective response from an event, and contextualised representations (C-reps), containing records of temporal and spatial context, utilise parallel neural networks that can become dysregulated during highly stressful events. Typical encoding involves simultaneous creation of C-reps and S-reps with connections between the two (*see Figure 7.1.a*). The model suggests that flashbacks in PTSD result from the creation of an S-rep without the usual association with a corresponding C-rep (*see Figure 7.1.b*). Because of this pathological encoding process, S-reps that are reactivated bottom-up from external triggers are vividly re-experienced in the present, as they are void of context from the original source of encoding. The authors theorise that dissociation during a highly-stressful event can compromise appropriate encoding and integration of contextually-bound representations, thus leaving enduring S-reps vulnerable to bottom-up reactivation and the experience of reliving a trauma through flashbacks. This theory is supported by the novel finding presented in Chapter Five of this thesis regarding the

role of perinatal dissociation and the development of birth-specific trauma symptoms, but not general trauma, when separated by symptom clusters. The separate regression models present perinatal dissociation as a significant predictor of birth-related symptoms (e.g., re-experiencing and avoidance) but not general trauma symptoms (e.g., negative affect and hyperarousal). This novel finding fits with the dual-representation theory of PTSD symptom presentation and suggests that dissociation during birth may pose as a risk factor for re-experiencing the birth and subsequent avoidance of possible triggers of the birth in the postnatal period, rather than a risk factor for general symptoms of trauma.

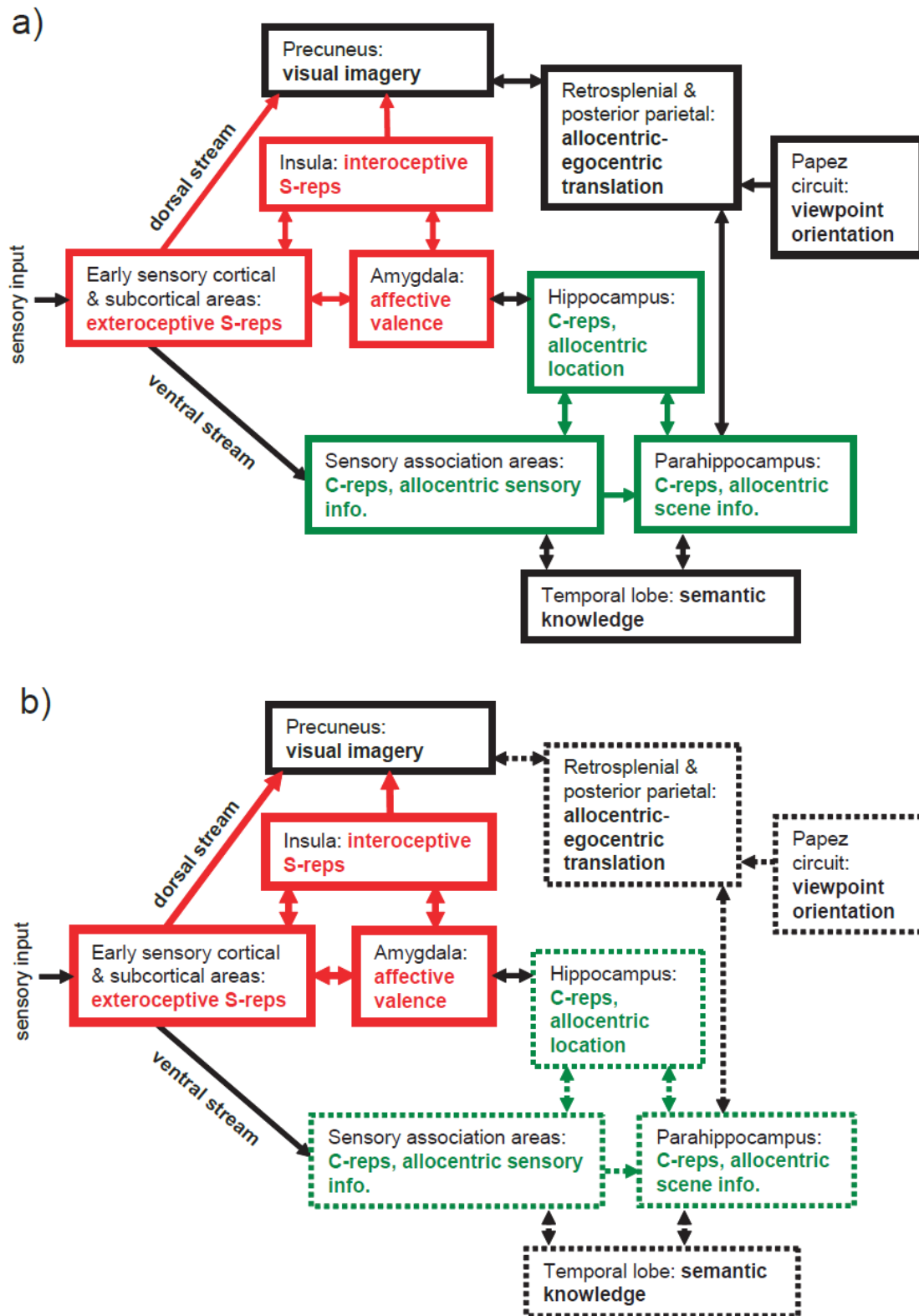


Figure 7. 1. A schematic model of memory encoding, showing the approximate regions and pathways involved in contextual representations (C-reps, in green) and sensory-bound representations (S-reps, in red), (Brewin et al., 2010)

a: Normal encoding of a traumatic event. b: Pathological encoding of a traumatic event, showing up-regulation of S-reps, down-regulation of C-reps, and disconnection between S-reps and C-reps. Heavy lines indicate stronger representations and pathways; dashed lines, weaker representations and pathways. [Permission granted from Professor Brewin to include in this thesis].

Finally, the research presented in this thesis contributes to the long-standing debate regarding the relative importance of obstetric events compared to women's subjective experience of birth. Both quantitative studies in this thesis present a positive correlation between level of obstetric intervention and postnatal trauma symptoms, yet regression analyses clearly show that the subjective experience is more important in postnatal PTS symptom presentation. Additionally, the presence of low perceived internal control during birth in all three predictive models for postnatal trauma, depression and anxiety, presented in Chapter Five, reflects the strong influence of a negative subjective experience on general postnatal psychopathology. The implications of these findings question the validity in the objective qualification of a traumatic event as stipulated by current diagnostic criteria for PTSD (APA, 2013). The DSM-5 requires endorsement of a traumatic event that involved 'actual or threatened death, serious injury or sexual violence', to meet the necessary criteria for a diagnosis of PTSD. The validation of women's subjective experience reported in this body of work supports the removal of such a requirement, and instead proposes the addition of a more subjective criterion for a traumatic event. The objective distinction between 'traumatic' and 'non-traumatic' events made in Criterion A of the DSM-5 PTSD classification, has been critiqued by clinicians as unnecessary and impractical (Brewin et al., 2009). For example, Kilpatrick et al., (2009) found that of 1,543 adults exposed to the Florida hurricanes, the PTSD prevalence was 11.6% with no Criterion A and 11.2% with the requirement for Criterion A. Brewin et al., (2009) argue that the abolition of Criterion A would allow clinicians to be free to focus on symptomatic presentation and treatment without concern that their patient 'could not have PTSD' because their trauma experience did not meet the criteria stipulated. This amendment would be certainly relevant in cases of PTSD from a traumatic childbirth experience. Further research would be useful to compare symptom presentation of



postnatal PTSD compared to presentation after other traumatic events to determine the appropriateness of current diagnostic criteria and its application to birth trauma.

#### *7.3.1.1. Considerations*

The measure used to assess obstetric intervention in these studies was the Intrapartum Intervention Score (IIS) (Clement et al., 1999). Albeit a useful tool to measure the relative impact of different types of obstetric intervention during birth, it is important to address that the IIS does not account for maternal morbidity during birth, (e.g., postpartum haemorrhage; prolonged/obstructed labour or complications associated with premature delivery). Previous research has documented associations between specific factors of maternal morbidity and postnatal PTSD (Furuta et al., 2012; Zaat et al., 2018). Additionally, content analysis of women's reports of their traumatic childbirth experiences, presented in Chapter Three, revealed obstetric complications and premature delivery to be key aspects of traumatic birth appraisals. Therefore, future research would benefit from a comprehensive measure combining obstetric events with maternal morbidity to determine the relative weight of objective experience compared to subjective birth experience.

Fear during birth emerged as a significant contributor to postnatal trauma symptoms and a key theme for women's traumatic appraisal of childbirth in Study I. Fear of childbirth, measured antenatally in Study III, did not present as a significant predictor of trauma when considered alongside alexithymic traits, suggesting greater influence of perinatal fear during birth as opposed to level of fear afforded to childbirth during pregnancy. However, this conclusion is drawn from assessment of fear across two separate studies, as perinatal fear was not assessed in the longitudinal study reported in Chapter Five. Future prospective research is warranted to establish the relative predictive value of antenatal fear of childbirth compared to

fear during the birth itself assessed postpartum on postnatal PTS symptoms. Previous research report fear of childbirth during pregnancy to be predictive of level of postpartum fear (Sluijs et al., 2012), suggesting that antenatal fear may influence the interpretation of the birth experience.

### **7.3.2. Research Question 2: *What perinatal factors contribute to a traumatic appraisal of childbirth?***

A prominent statistic in this thesis is the prevalence of women who considered their birth to have been a traumatic experience (21-29% reported in Study III and Study I respectively). It is important to acknowledge these prevalence rates to present the gravity of the issue of birth trauma and recognise that many more women than those who meet the clinical cut-off for postnatal PTSD experience traumatic childbirth. Consequently, the qualitative research presented in this thesis focuses on perinatal factors associated with a traumatic appraisal of childbirth. Chapter Three presents a thematic framework of aspects of a traumatic childbirth reported by women in the first year postpartum. Many of the themes identified reflect a negative subjective experience including perceived lack of control; fear for the baby, psychological distress and perceived lack of support. Content analysis also revealed obstetric factors associated with complications, assisted delivery and premature birth as aspects of a traumatic birth experience. Chapter Four presents a thematic framework from more in-depth qualitative interviews with women who appraised their birth as either traumatic or non-traumatic. The overarching theme that emerged throughout interviews with women who experienced their birth as traumatic was feeling powerless. This was in the context of feeling distrustful of staff, feeling out of control or feeling kept in the dark during or after the birth. Finally, perinatal counsellors reflected on the diversity of birth experiences experienced by

clients seeking help for birth trauma, as reported in thematic analysis of the focus group presented in Chapter Six. This was also discussed with reference to the significance of women experiencing dissonance between their expectations of childbirth and their reality.

Taken together, the qualitative research resonates the significance of a negative subjective birth experience whereby the mother feels powerless, out of control, uninformed and unsupported during birth. The findings also emphasise the potentially detrimental impact of obstetric events and maternal morbidity. The women interviewed in Study II who had experienced a traumatic birth had greater level of maternal morbidity and obstetric intervention compared with those who appraised their birth as non-traumatic. Similarly, content analysis revealed obstetric factors as a major theme in women's reports of traumatic childbirth as documented in Study I. However, a significant proportion of women reported their birth as traumatic and did not report experiencing obstetric complications (39% as reported in Chapter Three). Additionally, more than half of the women who did report obstetric complications did not appraise their birth to have been traumatic. Considering this, one can assume that obstetric complications can lead to a traumatic appraisal of childbirth, but is not a prerequisite of a traumatic experience. More likely is the appraisal of birth as traumatic when complications arise and the mother has a negative perception of her birth, concerning either the support or information available to her or her perception of control, contributing to a feeling of powerlessness.

The qualitative research in this thesis also infers the utility in asking all women about their subjective experience of birth as part of a standard follow-up care assessment, particularly in cases where obstetric complications may have jeopardised the mother's perception of empowerment during the birth. Providing women with the space to discuss their birth experiences was also highlighted as a key form of catharsis for clients experiencing birth

trauma, as observed by perinatal counsellors interviewed in Study IV. Giving the opportunity for women to ask questions about the care they received is recommended practice in current UK guidelines for maternity care (NICE, 2015). Yet, this research suggests a more holistic approach regarding discussions of the mother's subjective experience of birth could be more beneficial. The significance of the subjective experience in women's accounts of non-traumatic childbirth, presented in Chapter Four, further emphasises the value afforded to good perceived support from maternity staff and a positive subjective experience whereby the mother feels empowered during birth. Implications of these findings reflect the importance of interpersonal relationships and consistency of care. Therefore, ensuring healthcare professionals are supported to enable a consistent and personalised quality of care for all mothers is crucial for women to reflect on their birth as a non-traumatic experience.

### **7.3.3. Research Question 3: *What antenatal vulnerability factors are associated with postnatal PTS symptoms?***

Chapter Five presents the longitudinal study conducted with women from pregnancy through to three-months postpartum. From this study, existing PTS symptoms and alexithymia measured during pregnancy emerged as significant antenatal predictors of postnatal PTS symptoms. The findings from this study have important clinical implications for screening women in the antenatal period. A routine assessment by midwives about a woman's pre-existing trauma symptoms and alexithymic traits could screen women at risk of PTS symptoms following childbirth. This finding is supported by work that recognises prior trauma as a significant risk factor for postnatal PTSD (Dekel et al., 2017; Ford et al., 2010; O'Donovan et al., 2014; Soet et al., 2003; Söderquist et al., 2009). We can assume from the findings of this study that the addition of screening for alexithymic traits during pregnancy

could increase accuracy of predicting PTS symptoms after the birth. However, as alexithymia is considered to be a functional response to trauma (Badura, 2003; Freyberger, 1977) and indeed presented as highly correlated with PTS symptoms at three-months postpartum, further research is warranted to assess the internal validity of the predictive value of alexithymia compared to antenatal assessment of general trauma history.

Fear of childbirth, measured antenatally in Study III, did not present as a significant predictor of postnatal PTS symptoms when inputted into the regression model alongside trait alexithymia. Previous research have identified fear of childbirth as a vulnerability factor for the development of postnatal PTSD (Garthus-Niegel et al., 2013; Söderquist et al., 2009), yet with varying methods. Söderquist et al., (2009) employed a cut-off score for women scoring in the range of 'severe' fear of childbirth, which was associated with increased risk of post-traumatic stress after birth. Whereas, Garthus-Niegel et al., (2013) used total symptom score for fear of childbirth measured antenatally and found the association between fear and postnatal PTS symptoms was to a major part mediated by the objective and subjective birth experience. With this in mind, it is important to apply caution when dismissing the relevance of fear of childbirth from the results of Study III in this thesis. The cause of fear of childbirth is multifactorial, but has been associated with poor mental health during pregnancy (Laursen et al., 2008; Storksen et al., 2012) and a history of abuse (Lukasse et al., 2011; Nerum et al., 2006). Fear of childbirth is also five times more prevalent in women who have experienced a previous negative or traumatic birth (Størksen et al., 2013). Therefore, screening for fear of childbirth during pregnancy could flag up other pre-existing concerns that may make women more vulnerable to postnatal mental health problems after the birth.

Assessing for trait dissociation and desirability of control antenatally did not significantly predict postnatal trauma symptoms. Instead, state dissociation and a lack of internal control and support experienced during the birth were associated with postnatal trauma. These findings reflect the significance of assessing women's subjective experience of birth in terms of staff support, control and dissociation to indicate which women may be most at risk of postnatal trauma. Therefore, this body of work recommends a two-stage assessment with measures of existing trauma and alexithymia during pregnancy followed by subjective measures of the birth assessed postnatally. The presence of PTS symptoms during pregnancy and level of perceived internal control during birth were also significant predictors of postnatal depression and anxiety symptoms. This suggests that implementing antenatal and postnatal screening could help to identify women who may be at risk of other psychological difficulties after birth.

#### **7.3.4. Research Question 4: *Are there aetiological differences between postnatal trauma, depression and anxiety?***

The final research question of this body of work concerned the differences in predictive factors for postnatal trauma, depression and anxiety symptoms. Both quantitative studies outlined in this thesis incorporated separate measures for postnatal depression, as measured by the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987), and anxiety as measured by the seven-item Generalised Anxiety Disorder scale (GAD-7) (Spitzer et al., 2006). Both studies presented no significant correlation between level of obstetric intervention and postnatal depression or anxiety, whereas obstetric intervention was significantly associated with trauma symptoms in both studies. However, subjective characteristics of birth including lower perceived support and control and greater perceived fear were significantly associated with all three types of psychopathology measured. Chapter

Three presented lower perceived support and greater perceived fear during birth as predictive of postnatal depression and anxiety, albeit to a lesser extent as the predictive value of these factors for postnatal trauma symptoms. Additionally, Chapter Five reported separate predictive models for postnatal trauma, depression and anxiety symptoms. All three features of postnatal psychopathology were predicted by existing trauma symptoms during pregnancy and level of perceived internal control reported during birth. These similarities posit previous trauma as a vulnerability factor to general postnatal psychopathology after childbirth. Chapter Five also discusses the theoretical link between prior trauma and experiencing lower internal control during potentially stressful events using a ‘learned helplessness’ perspective (Maier & Seligman, 1976), which offers a possible explanation for the significance of lower internal control for all three measures of postnatal psychopathology.

However, the separate predictive models also presented some aetiological differences. Trait dissociation measured during pregnancy was a significant predictor of postnatal depression only. Whereas the subjective birth characteristics predictive of anxiety were more similar to those for postnatal trauma, with the exception of trait alexithymia and state dissociation during birth, which were predictive of trauma symptoms only. These differences suggest distinct aetiological pathways for postnatal trauma, depression and anxiety with some crossover of vulnerability and risk factors. As such, it is important that mental health screening measures in the postpartum period consider postnatal depression, trauma and anxiety as separate features of postnatal psychopathology. These findings also reiterate the importance of the subjective birth experience for general postnatal mental health and support the addition of asking mothers about their experience of childbirth in addition to mental health screening measures during postnatal check-ups.

#### *7.3.4.1. Considerations*

It is important to address the limitations associated with the measurements for depression and anxiety within this body of work that effect the extent to which one can answer this research question. Firstly, as discussed in Chapter Five, all measures were inputted into the same online questionnaire completed at three-months postpartum in Study III or within the first year after the birth in Study I. The strong correlations shown between postnatal depression, trauma and anxiety may reflect high comorbidity, as outlined in previous research (e.g. White et al., 2006), or may be the result of common-method bias (Ned, 2015). Multicollinearity diagnostics revealed relatively high multicollinearity but still within accepted limits for analysis as three separate constructs. Future research may wish to implement measures at separate time-points to avoid the potential for bias, yet this could question the ecological validity of longitudinal studies. The clinical application of this research emphasises the need for more comprehensive postnatal mental health screening, and this is likely to occur within a single visit. Alternatively, with the push for electronic maternity records (Cumberlege et al., 2016) and the introduction of Women's Digital Care Records (WDCR) (NHS, 2020c), there is scope to allow women to assess their postnatal mental health symptoms continually during the postpartum period. This could easily incorporate separate measures for depression, anxiety and trauma at different time points to improve accuracy of diagnostics.

Secondly, the measure used to assess anxiety in both quantitative studies of this thesis was not a perinatal-specific anxiety measure, but rather a measure of general anxiety (GAD-7) (Spitzer et al., 2006). During the early stages of study design, the measure for anxiety incorporated into the questionnaire studies was the 51-item Postpartum Specific Anxiety Scale (PSAS) (Fallon et al., 2016). This was removed due to issues with the length of the questionnaire and instead replaced by the GAD-7, which was selected for its clinical



relevance and common use in healthcare settings (Jordan et al., 2017). However, including a postnatal-specific measure of anxiety may be more useful for understanding and recording perinatal psychopathology, rather than relying on general clinical measures that may not adequately encompass the distinct presentation of anxiety symptoms in the postpartum period (Meades & Ayers, 2011).

## **7.4. Future Directions**

This body of work has several possible applications for research and practice. This section will address some of these avenues for future research and maternity care practice in line with current initiatives, as well as some of their accompanying challenges.

### **7.4.1. Antenatal and postnatal screening**

The research presented in this thesis identifies factors that could be used for screening and possible prevention of postnatal trauma. Women can be assessed during and after pregnancy for their level of risk. During pregnancy, women could be assessed for pre-existing PTS symptoms, alexithymia and possible fear of childbirth. If women score high on these factors, steps could be taken to reduce the likelihood of them developing PTS symptoms following childbirth. During birth, women who have operative births or show signs of dissociation could be flagged for postpartum follow-up to assess for possible PTSD. After birth, women could be asked about their subjective birth experiences, with particular emphasis on women's sense of support, control and empowerment. The exact nature of these assessments and which steps are most effective in preventing or minimising PTS symptoms require further research.

However, the findings presented in this thesis provides a foundation on which to base antenatal and postnatal screening using an integrative and systemic approach.

As outlined by the Department of Health and Home Office: *'A risk management plan is only as good as the time and effort put into communicating its findings to others'* (Department of Health, 2007). With this in mind, it is essential that risk assessments conducted during antenatal appointments are effectively communicated to all members of the maternity team that provide care during the birth. As current practice does not enforce a continuity model of care, it would be unreliable for perinatal psychologists or antenatal staff to discuss each woman's individual needs with maternity staff in-person. The introduction of digital maternity records, as proposed by the Better Births initiative (Cumberlege et al., 2016), would provide a reliable and accessible system to communicate information about a woman's vulnerability to postnatal trauma. The *NHS Long Term Plan* commits to offer all women access to maternity digital care records by March 2024 (NHS, 2020a). Until then, an alternative solution using a sticker system to convey information between psychology and maternity services has been successfully implemented and evaluated by Warwick Hospital (McKenzie-McHarg et al., 2014). A pink sticker was placed on women's hand-held notes to identify women who may be vulnerable to postpartum mental health difficulties and a second pink sticker was placed on the page that outlines the woman's symptoms and needs. Typically, women were identified if they had experienced a previous traumatic birth, had a fear of childbirth or had a history of abuse. The purpose of the sticker system was to communicate with the labour suite to ensure identified women received appropriately tailored, emotionally intelligent care. The sticker system was positively evaluated by both midwifery staff and the women who had a pink sticker on their notes. Additionally, the trust saw a 44% overall reduction in birth-trauma related referrals to perinatal psychology services

and none of the women with a pink sticker developed birth-related trauma symptoms that could be attributed to poor communication or negative perceptions of care during birth. This initiative highlights the potential benefits to an integrated communication device or service to improve outcomes for women who may be vulnerable to postnatal trauma. The findings presented in this thesis would imply added benefit of identifying women with existing trauma symptoms and alexithymic traits present during pregnancy.

#### **7.4.2. Perinatal mental health training**

A core element of the success from the pink sticker initiative in Warwick Hospital, was the combination of the alert sticker with mandatory training on perinatal mental health provided to all midwifery staff during the time the sticker system was introduced (McKenzie-McHarg et al., 2014). It is also worth noting that this system was beneficial for not only the women directly involved in the initiative, but also had a broader impact on the overall decline in birth trauma referrals. The authors hypothesise that this was due to an increased psychological mindedness from midwives and subsequently enhanced level of care for all women, particularly when a woman with a pink sticker was on the unit. This suggests that increased awareness of the psychological impact of maternity care can improve maternal outcomes. However, a report by the Royal College of Midwives (RCOM) stated that nearly one third of student midwives in the UK did not feel they had sufficient theoretical knowledge to recognise issues relating to perinatal mental health (RCOM, 2014). Additionally, only one-third of midwives report the availability of in-service training on perinatal mental health issues (Higgins et al., 2018). Providing compulsory perinatal mental health training to all midwifery staff could enable all midwives to identify risks and symptoms of postnatal trauma

and subsequently help to reduce variation of service provision across the UK (Cumberlege et al., 2016).

The research presented in this thesis outlines the significance of the subjective birth experience. Interpersonal relationships with maternity staff is a key determinant of a traumatic appraisal of birth and the subsequent development of PTS symptoms. Perinatal mental health training could encompass not only information about psychological presentation, but also education on how midwives could support women with mental health vulnerabilities. The findings from the longitudinal study reported in Chapter Five, suggests that identifying presentation of dissociation during birth would be a useful indicator for women who may be vulnerable to develop birth trauma symptoms in the postpartum period. Additionally, as discussed in Chapter Four, good communication and feeling informed during birth were major themes relating to feeling empowered, which were associated with a non-traumatic appraisal of birth. Conversely, feeling kept in the dark and powerless were associated with a traumatic appraisal of childbirth. From this, it may be beneficial for midwifery education initiatives to focus on communication skills training, the benefit of which have been found in other, non-maternity healthcare departments (Dacre et al., 2004; Gysels et al., 2005). Further research incorporating trials of interventions to improve communication between maternity staff and women during birth would be beneficial. Additionally, the findings from this thesis imply communication skills training with a focus on discussing women's subjective experience after the birth and providing families a space to share their stories would also be useful in identifying women who may require additional support in the postpartum period.

#### **7.4.3. Consistency of maternity care**

A key difference in women's accounts of their traumatic or non-traumatic birth experiences, discussed in Chapter Four, was the impersonalised or personalised care they received during birth. Personalised care was related to a trusting mother-healthcare provider relationship, which was in turn associated with feeling empowered. Whereas, impersonalised care was associated with distrust and feeling powerless during birth. Impersonalised care was often discussed with reference to inconsistency in the care received and conversely, personalised care was associated with continued care from the same healthcare professionals. These findings are in line with a recent meta-synthesis that found the midwifery continuity of care model to be associated with increased trust, personalisation and empowerment for women (Perriman et al., 2018). Similarly, a Cochrane review of maternity care revealed continuous support to be consistently associated with better clinical outcomes for mother and baby (Hodnett et al., 2013). As such, the 'Better Births' national maternity review recommend that, by 2021, all women have a named midwife who can provide continuity of care throughout pregnancy, birth and during the postpartum period (Cumberlege et al., 2016).

The implementation of a continuity of care practice will align with two main models of care (NHS, 2017). The first model represents team continuity, whereby each woman will have an individual midwife who will co-ordinate her care within a team of four to eight, all of whom meet with the mother before the birth. The second involves full case-loading, whereby each midwife is allocated a certain number of women and a core midwifery team, whom the woman is unlikely to have met, provides back-up care (NHS, 2017). This case-loading model has been associated with better birth and neonatal outcomes for vulnerable women with complex social needs such as women experiencing domestic violence, mental health issues or asylum seeking (Rayment-Jones et al., 2015). Further research incorporating a full-scale trial is warranted to determine the impact of these models of continuity of care on birth trauma

specifically. However, the qualitative data presented in this thesis implies benefits of consistent care during birth and the importance of a robust care pathway that enables families to access continued support before, during and after birth.

## **7.5. Challenges**

### **7.5.1. Maternity Staff Shortages**

NHS England are suggested to have midwife shortages of the equivalent to approximately 3,500 full-time midwives (Paparella, 2016). A recent poignant statistic revealed that 80% of midwives felt they needed more support with workload management and risk-assessment (RCOM, 2020). This problem is perpetuated by midwives leaving the profession directly as a result of staffing issues and size of workload compromising provision of care (Barker, 2016). Staff shortages will prevent effective execution of a continuity of care model and risks implementation of a case-loading model that midwives cannot sustain. This is reflected in a national survey of midwives, whereby only 24% of midwives reported willingness to work in a case-loading model and only 32% willing to work in a team continuity model (Taylor et al., 2019). Reservations from midwives typically surround practical barriers of their own caring responsibilities and concerns over work-life balance. In order to implement an effective continuity of care model, policymakers are required to increase maternity staff numbers and support maternity teams in appropriate delivery of personalised care.

### **7.5.2. Costs**

Perinatal mental illness has an estimated yearly cost to society of £8.1 billion in the UK (Bauer et al., 2014). Almost three-quarters (72%) of these costs relate to adverse impacts of

perinatal illness on the child, rather than the mother. Approximately one fifth of costs (£1.7 billion) is borne by the public sector, with the majority of these falling on NHS services (£1.2 billion). It is suggested that many of these costs could be avoided with early identification and appropriate intervention and it is estimated that an annual investment of an extra £280 million a year would improve perinatal mental health services to the recommended standards in national guidelines (Bauer et al., 2014).

The need for improved perinatal mental health services has been recognised by policy makers and, since 2016, NHS England has invested £60 million to enable 30,000 more women with moderate to severe perinatal mental health difficulties each year to access specialist perinatal mental healthcare and treatment (NHS, 2019b). This funding has seen improvements in specialised perinatal mental healthcare provision with perinatal mental health teams operating in all 44 local NHS areas in England and the opening of four new Mother and Baby Units in areas of particular need. This funding provides a much needed service for families suffering with more severe mental health difficulties during the perinatal period, but it is important that funding does not dismiss the significance of the large proportion of women who experience traumatic childbirth and present with psychopathological symptoms that fall below the clinical threshold. At present, the first-line of treatment for mild to moderate perinatal mental health problems is psychological therapy provided through Improving Access to Psychological Therapies (IAPT) services (Howard et al., 2014). There are a number of concerns with the provision of perinatal mental healthcare from IAPT services including a lack of relevant training for IAPT workers, lack of treatment methods specific to the perinatal context and delays in access to treatment (Bauer et al., 2014). Therefore, a more comprehensive mental health assessment incorporated into women's maternity care would be preferable. As the subjective birth experience is a significant determinant for traumatic birth

appraisal and the development of PTS symptoms postpartum, increased funding to support personalised and high-quality maternity care may be more costly initially, but could contribute to a more preventative solution to perinatal mental health issues.

### **7.5.3. Postnatal Debriefing**

The research presented in this thesis emphasises the importance of good communication and follow-up care to identify women who may be vulnerable to postnatal trauma symptoms. The perinatal counsellors interviewed during the focus group, presented in Chapter Six, highlight the catharsis associated with sharing childbirth stories for families experiencing birth trauma. Therefore, the implications of this body of work promotes a system that supports maternity staff asking about the woman's subjective experience of her birth as part of a standardised follow-up care assessment. This is supported by research suggesting that women who present with symptoms of birth trauma are more likely to want to talk about their birth experience after they have left the hospital (Baxter, 2019). However, a review of randomised control trials into the effectiveness of postnatal debriefing conclude that there is little evidence that debriefing is effective for the prevention of psychological trauma after childbirth, (Bastos et al., 2015). As a result of this review, routine discussion of the birth experience is not always offered to women in the postnatal period and current UK postnatal guidelines do not recommend formal debriefing and instead recommend women are given the opportunity to ask questions about their maternity care (NICE, 2015).

One of the reasons offered for the apparent ineffectiveness of postnatal debriefing is the wide heterogeneity in trial designs and what constitutes 'debriefing' (Rowan et al., 2007). It is also suggested that a lack of maternity training in the delivery of debriefing may influence its effectiveness, rather than an inherent issue with talking about the birth experience (Kitzinger



& Kitzinger, 2007; Knol & Geraghty, 2017). Indeed, having the opportunity to discuss the birth with a healthcare professional was selected as the most preferred support option by women in the postpartum period (Thomson & Downe, 2016) and is associated with positive outcomes for women who directly request this service (Ayers et al., 2006). Additionally, a review of the literature documents the value afforded to postnatal debriefing services by women as a means of validating their birth experience and addressing unanswered questions surrounding the birth (Baxter et al., 2014). It is therefore reasonable to assume that a postnatal listening service that is offered to women after the birth, with the addition of perinatal mental health and communication skills training for midwives to deliver such a service, could be beneficial for families and provide a platform to identify women that may require further support. Yet further research is required to establish a consistent and effective listening service that can be implemented throughout the country to reduce variation of service provision.

#### **7.5.4. Practicality of Risk Assessment**

The quantitative research in this thesis presents predictive models for postnatal trauma symptoms resulting from assessment of both antenatal factors and postnatal measures of women's experiences of birth. The use of questionnaires to quantify these factors is a useful method to collect large-scale data, yet may reflect a scientist-practitioner model of an unrealistic approach to screening women for perinatal mental health difficulties (Richardson, 2009). The introduction of electronic maternity records (Cumberlege et al., 2016) could provide a digital interface for women to complete antenatal and postnatal screening measures. However, this runs the risk of reducing the nuances of skilled communication and interpersonal skills to a tick-box functionality. The quality of interpersonal relationships is

central to the quality of maternity care; therefore, application of findings from perinatal research should incorporate practical information regarding *how* support is provided. Otherwise, clinical applications of research that posit additional perinatal mental health support may be regarded and implemented in a tokenistic manner (Hunter et al., 2008). Overcoming the challenge of practicality of implementation requires multi-disciplinary collaborations and policy change to enable a more integrative approach to maternity care.

#### **7.5.5. Attrition**

The research presented in this thesis suggest an appropriate risk assessment for birth trauma would require both antenatal assessment of vulnerability factors and follow-up assessment of subjective experience of birth measured postnatally. This two-stage risk assessment is reliant on the mother engaging with this process during at least two time-points across the perinatal period. The longitudinal research presented in this thesis presents an attrition rate of 35% from pregnancy to three-months postpartum (*Chapter Five*). High attrition rates were expected and previous longitudinal perinatal research have identified socio-demographic factors associated with study drop-out including: lower socio-economic status; lower levels of education; younger mothers; multiparous mothers; single mothers and a higher proportion of women from black or ethnic minority background (Alcorn et al., 2010; Ayers et al., 2014; Ayers & Pickering, 2001; Garthus-Niegel et al., 2014; Junge et al., 2017). Participant retention in longitudinal perinatal studies is an important consideration for future research and may reflect issues of continued engagement with healthcare services emulated in clinical practice.

#### **7.5.6. Representativeness**

In line with the issue of attrition, the final challenge addresses issues of representativeness of participant samples in perinatal research. Research suggests that larger attrition rates of women from marginalised minority groups are seen when study recruitment relies upon advertisement through broadcast media approaches, whereas face-to-face recruitment and interaction generates larger numbers of eligible women and presents lower attrition rates (Gilliss et al., 2001). As outlined in Chapter Five of this thesis, the participant sample recruited online were not representative of Black women, Asian women or women from an ethnic minority background (NHS, 2019a). This is of particular relevance as Black and Asian women are disproportionately represented in maternal mortality rates across the UK. Black women have five times greater risk of dying in pregnancy or up to six-weeks postpartum compared to white women and Asian women have twice the mortality risk compared to white women (MBRRACE-UK, 2019). Additionally, women from Black, Asian or ethnic minority groups experience significantly lower access to mental health services during the perinatal period compared to white women (Jankovic et al., 2020). These figures highlight the need for perinatal research to make greater efforts to engage with women from marginalised ethnic backgrounds and ensure ethnicity is measured as part of participants' demographic information. Addressing ethnicity in perinatal research will help to ensure any implications or clinical applications of research are representative of the needs addressed from an accurately represented sample of women.

## 7.6. Final Word

The research presented in this thesis emphasises the significance of the subjective experience of childbirth with particular emphasis on the mother's perception of feeling empowered, supported and in control during birth. The findings reveal a negative subjective experience of childbirth to contribute to the appraisal of birth as traumatic and the development of postnatal PTS symptoms postpartum, over and above the relative influence of the level of obstetric intervention experienced. Additionally, findings from the longitudinal study highlights individual vulnerability factors for postnatal PTS symptom development that can be screened for during pregnancy. Taken together, the research supports current initiatives for improvements to maternity care services that seek to empower women during birth and offer additional support to those who may be more vulnerable to develop postnatal trauma.

\* \* \*

*"Well, maybe it started that way. As a dream, but doesn't everything? Those buildings. These lights. This whole city. Somebody had to dream about it first. And maybe that is what I did. I dreamed about coming here, but then I did it."*

*James and the Giant Peach, Roald Dahl*

# APPENDICES

## Appendix 1. Interview Schedule (*Study II*)

### Introduction

Hi, this is Grace Baptie from the University of Plymouth calling to conduct the birth experience phone interview. Am I speaking to participant name?

Hi participant name, thank you very much for making time to speak with me about your birth experience. How are you today?

### Reminder of consent

Just some technical bits before we get started – if you are happy to consent to it, I will record this phone call but the recording will only be accessible to myself and my research team. All of your personal information and details will be kept confidential and removed prior to analysis and we will just use initials when referring to your recording.

If you wish to withdraw from the interview, you are more than welcome to do so at any point. You are not obligated to answer interview questions or share information that you are not comfortable sharing.

Are you happy to continue? Do you have any questions before we start the interview?

### Interview Questions with prompts

1. How did you find your labour and birth? (Experience as a whole)
  - a. Did you have any birth preferences or birth plan? How much did it go to/reflect your plan?
  - b. Can you walk me through what happened?
2. What were the most challenging aspects of your birth?
  - a. What would you say were the most difficult moments?
3. How much control did you feel you had over your birth?
  - a. Why do you think that was?
  - b. How important was it for you to be in control?
    - Why?
4. How did you find the support available to you?
  - a. What about the support from healthcare professionals?
  - b. What was so good about the support?

- c. How did they make you feel supported?
- 5. How are you feeling now?
  - a. How has it changed since the first month after giving birth?
- 6. Is there anything you think the NHS could do to improve women's birth experiences?
  - a. If you were pregnant again, how would you like things to be different?
  - b. If a close friend or family member were to get pregnant what advice or support would you give them?
- 7. Anything else you would like to share?

**End of Interview**

Thank you so much for your time and your honesty.

I will send you an email later today which will give you some more information about the research project. If you have any questions, please feel free to contact me at any time.

## Appendix 2. Video Diary Template (*Study II*)

Dear 'Participant Name'

Thank you for your participation so far in the research project focusing on Perinatal Mental Health. We really value your participation and your honesty when discussing your journey through this stage of your life.

As you have expressed an interest in creating a video diary, attached are some instructions on how to create and upload your video diary and below are some topic suggestions:

1. How did you find your labour and birth experience?
2. What were the most challenging aspects of your birth?
3. How much control did you feel you had over your labour and delivery?
4. How supported did you feel by health care professionals?
5. How have you found the support from your partner, family and friends?
6. How are you feeling now?
7. Is there anything you think the NHS could do to improve women's birth experiences?
8. Anything else you would like to share...

Once you have created your video diary, click on the link below to upload your video to us. You can upload a video straight from your smartphone, tablet or PC. We recommend using Wi-Fi rather than your phone's data to upload.

[Video Upload Link](#)

If you have any questions about the project please feel free to contact Grace at [grace.baptie@plymouth.ac.uk](mailto:grace.baptie@plymouth.ac.uk)

Thank you

Best wishes

Grace Baptie



### Appendix 3. Sample Transcript (*Study II*)

**I:** Interviewer

**P:** Participant

*Beginning of interview, introductory study information, etc.*

**I:** Any other questions before we start the interview?

**P:** Umm...probably just that my baby's quite unsettled at the moment, so I may have to keep breaking up [laughter].

**I:** Oh, that's no problem at all, yeah, that's no problem [laughter], we completely understand; yeah if you need to take a break at any time, just let us know, no problem.

**P:** Sure, okay.

**I:** Alright, so... How did you find your birth - so like, the experience as a whole?

**P:** Umm, as a whole... umm, I really quite enjoyed it [laughter].

**I:** Oh, that's nice!

**P:** Um, yeah, on...on the whole I actually found it um, a really calm, quite enjoyable, empowering experience.

**I:** That's great, um, what about your experience would you say was empowering? What made you feel that way?

**P:** Uhm, I think just, um, I felt really in control with it? Which I was really pleased about because I think I was concerned that it might be too overwhelming. Uhm, and you obviously, historically through your life, you hear a lot about the pain of childbirth [baby cooing] Yeah, we're talking about you! [laughter] Uhm, so... I think you've always got that in mind. Uhm, but I did a lot of work to try to... uh, sort of to increase my perceived sense of control in the situation, and it

was...quite a relief [chuckle] in the moment, to realise that I absolutely was in control, and... could actually breathe, through the feelings, and that was really empowering, to know that, yes - it was me in control, and it wasn't, uhm, sort of unfathomable pain.

**I:** Of course, yeah, that's completely understandable, uhm, and so would you say, you were able to stick to your birth preferences, or birth plan?

**P:** Yes - luckily I was. Uhm, so, I really wanted to birth at the Midwife-led Unit that's local. Uhm, and then in the last few weeks it was looking like maybe I couldn't? Uhm...because...uhm, [baby name] growth had slowed on the scan, so they were wanting to induce me, um, but he was still growing but had just slowed, so me and my partner... [baby cooing] yeah we are talking about you!] Yeah, discussed it, and didn't go for that, um so we then, luckily, went into spontaneous labour and then we were able to go the Midwife's Led. So yeah, we were able to do that, and we were able to have a pool birth, um and the whole thing was to my birth plan, which was fantastic and the midwives were *completely* behind it, which was great.

**I:** That's amazing, that's really good. So one of our questions is about the most difficult or challenging aspects of your birth, but it sounds like you had a really lovely experience [laughter]!

**P:** [laughter] There was a challenging aspect, there was a challenging aspect, towards the end, so he had crowned, um but, got his shoulder stuck, um so that was whilst in the pool. Um, and then [laughter], the 'red' button had to be pushed, and I was told that lots of people would flood the room, um, and that I needed to get out of the pool and onto the bed, um, and so that was quite tricky because he was *partially* born, [laughter], and yeah, obviously lots of medical

professionals filled the room etcetera, and, and, it was just a case of getting him out as quickly as possible, otherwise it might've been a quick, uh, trip along to surgery instead. Um so yeah, that was a challenging aspect, but, I think because I was so in the...zone, you kind of go to a weird place [laughter]. And, uh, yeah, it was quite nice because I was able to stay calm throughout it, because I'd been in such a calm, controlled place mentally for the previous hours, um, so I think my partner found that quite, uh, interesting [laughter], that it had gone crazy in the room but I was still maintaining a sense of calm, luckily.

**I:** So would you say that the support available to you, um, was good, or? How did you find the support available to you?

**P:** Yeah, I thought it was really good, um, I had one midwife but I also had a trainee midwife in there as well, which was really nice because it meant that she was explaining everything for the sake of the trainee midwife which also helped my partner to know exactly what was happening as well, um, and, yeah, that was a nice support because nothing had to be directed straight at me, you know, I could kind of listen in if I wanted to hear roughly what was happening, or just stay in my zone. Um, so yeah, it was nice, I felt supported in that, and that was also part of my birth plan, to not, um, you know, have too many questions fired at me during labour etcetera, and just be allowed to, um, get on with it [laughter], quietly and calmly.

**I:** [laughter] Yeah no, that makes sense. So you feel like - would you say you felt respected and like, you know, your boundaries were respected, and your needs were met?

**P:** *Absolutely*, yeah. And it was really nice when she read the plan, um, because I wanted a quite hands-off approach, and um, I wasn't

really bothered in knowing how many centimetres I was etcetera, so she said 'that's absolutely fine - we don't have to look at all'. You can just, carry on, so that's fantastic, um because I also wondered how, uh, mentally that might benefit or hinder me, um, you know if you think you're further along, and then you're not, and then it might, you know, your mental perception of that might then inhibit your contractions etcetera. Uh, so I just thought, I'll go with not knowing and just see how that works out [laughter], which actually was great. But also, I was really supported because...um, if they needed to do anything that was off birth plan, um, they had read it so thoroughly that the whole process, they, you know, remembered exactly what I had written to then say: 'oh, I know that *this* was in your birth plan, but, um, you know we advise this'. For instance - oh sorry, [adjusting baby] I'm just going to change positions. Um, after he was born, I'd requested a natural delivery of the placenta, um, but, it was taking too long, and I think because of the shoulder dystocia with him, um, they wanted to sort of hurry it up, so they said 'would it be okay, you know, I realise that you said this in your plan, would you be open to having the injection to speed it up?' And, so that, it was really nice that it was always a: 'we recognise that this was not in your plan, this is an option to you, would you like to go with it?' Um, because obviously, it's kind of a dynamic birth plan, you'll change it in the moment. And um, so I was happy to do that, but it was, it was really nicely put, and there was no, there were no, you know: 'we really think that you should do this'. Uh so yeah, it was really supportive of what I'd previously requested.

**I:** Mm-hm. Well that's great, thank you so much, um, and just about the support available to you, um, in terms of your family and your partner, how did you find that?

**P:** Um, my partner was *brilliant* because we'd decided to do a hypnobirthing course together, and yeah, so it wasn't physically going to a course, it was an online one, but it was perfect because we were in the process of moving, and they were all little videos, so we kind of fitted it in as and when, and it was a nice thing to kind of focus us on the birth [laughter], and while moving house and painting etcetera. But it meant that rather than just me having read, you know, a hypnobirthing book, and passing on what I'd read, he was actually taking in the exact same information as me, at the same time and we could discuss it. Um, so it meant that he was very much understanding, um of what we, um, both wanted and a lot of the courses on that was science of labour of birth, which is perfect because I love that [laughter].

**I:** No yeah, it's quite important to understand as well, so you get the background and foundation.

**P:** Yes! That was *absolutely the* most important part, because I think people think hypnobirthing is um, I don't know, a kind of [laughter] not the most scientifically based uh practice. But, it was the science that *really* helped because I was thinking: 'Okay, if I stay calm and happy and positive, that keep the oxytocin flowing, that keeps me calm, the baby calm, hopefully I can stay in the pool rather than being transferred, keep the contractions going' [laughter]. Whereas as soon as you, sort of get scared and get the fear, you get the adrenaline and things - your blood flows away from where it's meant to be. Um, but yeah, that was the most...yeah, the best part of that

course. But it was great because my partner, [partner's name], had obviously seen and we discussed all the same things, so he knew, to keep calm, and to help support me staying calm. Um, we packed the bags together, it wasn't you know, 'you're the pregnant female, so you pack the bags', he was very much like 'oh okay so, do you think you want a playlist? [laughter] Shall we make one? Do you want some battery candles, to, you know, have it relaxed? Ambiance?' [laughter]

**I:** [laughter]

**P:** Um so yeah, he was really behind all the principles, that you know, makes complete sense, and was active in helping me set the room up and things to have the best birth possible. So yeah, felt very supported by him, um, and also my parents, um, they were brilliant in, I guess, afterwards... not forcing us to have a visit too soon? Um, I guess that sounds slightly bizarre [laughter] -

**I:** No that makes sense - of course, yeah.

**P:** Yeah - because it's our first child, spent one night in the hospital before coming home, um, but then our feeling was very much like, we just want to draw the blinds, and just all kind of get to know each other as a family, and for him to feel relaxed and happy, because it's obviously a *massive* transition, coming out into the world [laughter].

**I:** Yeah of course, and for everyone involved, definitely, yeah.

**P:** Yeah - and obviously after birth, there's lots of things going on for the mother which you think: 'I just want to relax and navigate this' [laughter], without guests, and um, and so they were really good in you know, they said: 'call if you want to when you're in labour, but don't worry if not, obviously we'll hear about it soon after', which was great because the pressure was off there, um, and it's nice when you don't feel the expectations from others I guess? Um, and

yeah, they were very good in, although obviously they were desperate to kind of meet him, they were very good in giving us our space in the initial few days and then came when were a bit more ready.

I: Mm-hm. That's great.

P: I'm just going to pop the phone down for a second and put him on my shoulder again.

I: No problem, no problem [laughter].

*[Baby crying in background]*

P: Okay, back [laughter].

I: Alright, so your baby was born, um, in [date] right?

P: Yes, that's right.

I: How are you feeling now, um, a few months after giving birth?

P: Uhm, pretty good. I feel really happy in the respect that it's sixteen weeks post-birth, but I still look back on it and think that was a good experience. Um, whereas I know, a lot of people that I know still feel traumatised by it, and uh, so it's nice to know that it's still not that long since it all happened, um and I feel happy about the process and quite proud, and I feel...[laughter & inaudible speech; talking to baby], feel tired [laughter] for sure, because yeah, sleep deprivation is real, um but, other than that, luckily feeling uh, pretty calm and happy about everything and it feels weirdly...normal, [laughter] having a baby around.

I: [laughter] That's great, sounds like the transition was quite smooth then, right or?

P: Yeah it was, I think it probably helps the career that I have, I'm a contacts needs teacher so I'm very used to, you know, having a certain amount of noise around, and doing lots of interaction, and sensory play etcetera, so I think that really helped because now it's

almost like: 'Oh, there's only one of him', [laughter] and I can focus completely on him. Yeah it's far easier [laughter], than what I'm used to. Uhm, so yeah in a way, that has really helped...me mentally prepare for parenthood.

**I:** No that's good...and how is your partner feeling right now, if you don't mind me asking?

**P:** No not at all! Really good, and he's enjoying being a parent, so much so that he pops back in for lunch and left shortly before you rang, so yeah, he's really enjoying it. Uhm, again, feeling tired, but other than that, we're both very much trying to enjoy everything in the moment, because everyone says: 'oh it goes so fast', and it does, but I think it helps... yeah, to focus on what's happening there and then, and uhm, we're both trying not to read up too much on all the stages, because it can just get a little bit too overwhelming. So yeah we're at this point, now we can start just doing a little bit of looking into what teething might look like, and what we should do or, what weaning might look like. So we're trying to just... you know, keep, uh... yeah, sort of low information and more led by him and our parenting, which is working out so far.

**I:** That's great, that's really great to hear. Um, and is there anything you think the NHS could do to improve women's birth experiences?

**P:** Uhm... hm... My absolute main thing that I credit my birth experience to was hypnobirthing. Specifically, the science part of that, um...and I know that some areas are offering hypnobirthing classes for free, which is incredible, um, so I guess that I now know from personal experience would be *really* beneficial to a lot of women. And also... again through the hypnobirthing, uhm, I knew what the pros and cons of induction would be, you know that if you are induced, it's obviously



a fake form of oxytocin and, which is your kick-starter and can be more painful, and your body might not be quite ready for that um, and then a lot [baby cooing], and then a lot, uh, I think statistically a lot of inductions, obviously, there is totally a part that inductions need to play, but, I think a lot end up being c-sections, um, for whatever reason. So I think maybe more information on um, the actual process on induction maybe?

**I:** And how did you find, um, information about hypnobirthing, if you don't mind me asking? How did you... was it offered to you by someone or a healthcare professional?

**P:** No... it was actually a couple of friends who'd done it, one friend had a friend who's a midwife and who was a hypnobirthing teacher as well, and she had a really positive birth experience, so that was quite good to hear about. Um, and another friend had read a book, and again, had a positive birth experience. And um, yeah, so it was, that was two different ways, because one was a friend passing the information and the other was through a book, uhm, and it just seemed quite interesting that the people I knew who'd tried hypnobirthing tended to have a far more positive view on their experience, uhm, and actual experience. And actually it wasn't always that it'd gone super smoothly for them, it wasn't like - one sec, let me just change positions. Yeah, for some of them it wasn't that they'd had, you know, the perfect pool birth or anything you know, sometimes they had to go through a c-section, but they had in mind - I think it's mainly the perceived sense of control that you have over the situation, because they had... previously learnt, and sort of thought: 'okay, if that situation arises, then what can I do to increase my sense of control in the situation? Or, what can I do to help... the, um, the actual

room?' because I asked for the dimmed lighting, could I still have the playlist, could I still have my partner help me count my breaths? Um, you know things like that, so they'd considered what they could do to help them if that had happened. Um, which I think was really helpful, so that even if they didn't have on paper 'perfect birth', their views after the birth were definitely helped by hypnobirthing, because they had a better sense of control over *how* it went, um, even if they did have to go down a route that they weren't...planning, if that makes sense [laughter]?

**I:** Yeah no, that makes sense, thank you. And would you uh -

**P:** So that was, that was really appealing [laughter].

**I:** No that's good, yeah. And uh, would you say that, you know, um, your knowledge about birth, because you said you read a lot about hypnobirthing prior to your birth, would say that helped empower you through your birthing experience?

**P:** Yes, absolutely. Yes - and probably limiting other information? So...uh, I've never watched [laughter] one born every minute?

**I:** [laughter]

**P:** Um, I have no idea whether it would have been helpful or not, whether I would've thought: 'okay, this is good, this is more information, this is how some things might happen'. But I think... um [baby cooing], I think um, just helped me... ah... one sec

*[Baby crying in background]*

**I:** That's alright, no problem.

**P:** I...um, yeah, so I think... I can't remember what I was saying now... Oh yeah, so I think...from doing lots of reading about you know, the science of labour and birth, that definitely gave me a sense of empowerment over the situation, and what to expect. Um, but then also choosing

the sources of information, so just wanting to go down the factual route, rather than the sort of 'One Born Every Minute' dramatized version of it? Potentially dramatized. Um, and... also... just being careful who I asked about birth experiences, if at all? Uh, because I think I felt quite protective... mentally, over just wanting to focus on, uh, what I could do, uh, rather than having more, uh, potential fear about the situation, and sort of try to come away from all the fear helps my knowledge, and then stay super calm about it [laughter]. Uh, yeah...so I think it was, yeah... seeking out the knowledge that I needed and focusing on... the science of it, um, and then yeah, limiting other information which might steer me away... [laughter], you know

**I:** Yeah, of course. Kind of selecting your sources carefully [laughter], makes sense.

**P:** Yeah, exactly.

**I:** So uh, is there anything else you would like to share about your experience?

**P:** Uh... I don't think so...

**I:** No, that's alright! No problem.

*End of interview, debriefing, thanking participant, etc.*

## **Appendix 4. Focus Group Topic Guide (*Study IV*)**

### **Introduction**

Welcome and thank counsellors. Check that they have read and understood the information sheet and signed consent forms.

### **Explain purpose of focus group**

#### Objectives:

- 1) To investigate perinatal counsellors' perspective on how birth trauma affects families
- 2) To better understand trends in perinatal mental health and current maternity practice with reference to birth trauma.
- 3) To identify areas in current maternity care that could improve outcomes for families.

Are you all happy to continue? Do you have any questions before we start the focus group?

### **Topic Guide**

1. What are your experiences in working with clients with perinatal mental health difficulties?
  - a. Have you noticed any changes in trends in the people approaching you for support?
  - b. Have you seen any changes that may relate to changes in maternity care practices?
2. What are your experiences in working with clients who present with trauma from their birth experience?
  - a. What difficulties do people tend to present?
3. What trends have you noticed in the people coming to you who are experiencing trauma?
  - a. Are there any similarities or differences that you notice in your clients?
4. How do you feel about current help offered to families who are struggling during this time?
  - a. How do you think things can be improved?
5. Anything else anyone would like to share?

### **End of Interview**

Thanks and donation offer. Talk through debrief and give debrief forms to participants.

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